



## WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount

### Technical Data Sheet

**PE1WAN090-15SF**

#### Features

- 8.2 GHz to 12.4 GHz
- WR-90 Waveguide Band
- 15 dBi Nominal Gain
- SMA Female Connector
- Ruggedized Aluminum Cage-Style Mount
- Integrates with Positioning Systems

#### Applications

- Antenna Measurements
- Wireless Communication
- Laboratory Use
- Microwave Radio Systems
- Radome Testing
- Automotive Antenna Test
- Solutions
- Radar Cross Section
- Satellite Antenna Testing

#### Description

The PE1WAN090-15SF standard gain horn antenna with integrated cage-style mount (also known as waveguide horn) from Pasternack is part of our comprehensive selection of waveguide antennas. The cage-style mount is a ruggedized aluminum mounting solution that integrates with test and measurement positioning systems, ensuring precise alignment and protection of the antenna. This standard gain horn is mated with a WR-90 to SMA Female waveguide to coaxial adapter and operates from 8.2 GHz to 12.4 GHz.

Our PE1WAN090-15SF standard gain horn antenna with integrated cage-style mount has a nominal gain of 15 dBi with a Horizontal and Vertical HPBW (Half Power Beam Width) of 31 dB and 32 dB respectively. Pasternack's SMA Female to WR-90 standard gain horns are available in 10, 15 and 20 dBi models with pyramidal shape and connectorized input.

Waveguide antennas, such as the PE1WAN090-15SF are used in a wide variety of applications due to the high-power handling capability, low loss, high directivity, and near constant electrical performance. Our WR-90 waveguide antennas with SMA Female interface is part of over 40,000 RF, microwave and millimeter wave components from Pasternack available worldwide and ship same day.

#### Configuration

Design  
Coaxial Interface

WR-90 Standard Gain Horn  
SMA Female

#### Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	8.2		12.4	GHz
<b>Waveguide Standard Gain Horn</b>				
Gain		15		dBi
Horizontal Half Power Beam Width		31		Degrees
Vertical Half Power Beam Width		32		Degrees
<b>Waveguide to Coaxial Adapter</b>				
Input VSWR			1.25:1	

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount PE1WAN090-15SF](#)



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### Mechanical Specifications

#### Size

Length	4.724 in [119.99 mm]
Width	4.724 in [119.99 mm]
Height	6.69 in [169.93 mm]
Weight	0.93355 lbs [423.45 g]

#### RF Connector

Type	SMA Female
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#### Waveguide Interface

Waveguide Size	WR-90
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### Environmental Specifications

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount PE1WAN090-15SF](#)

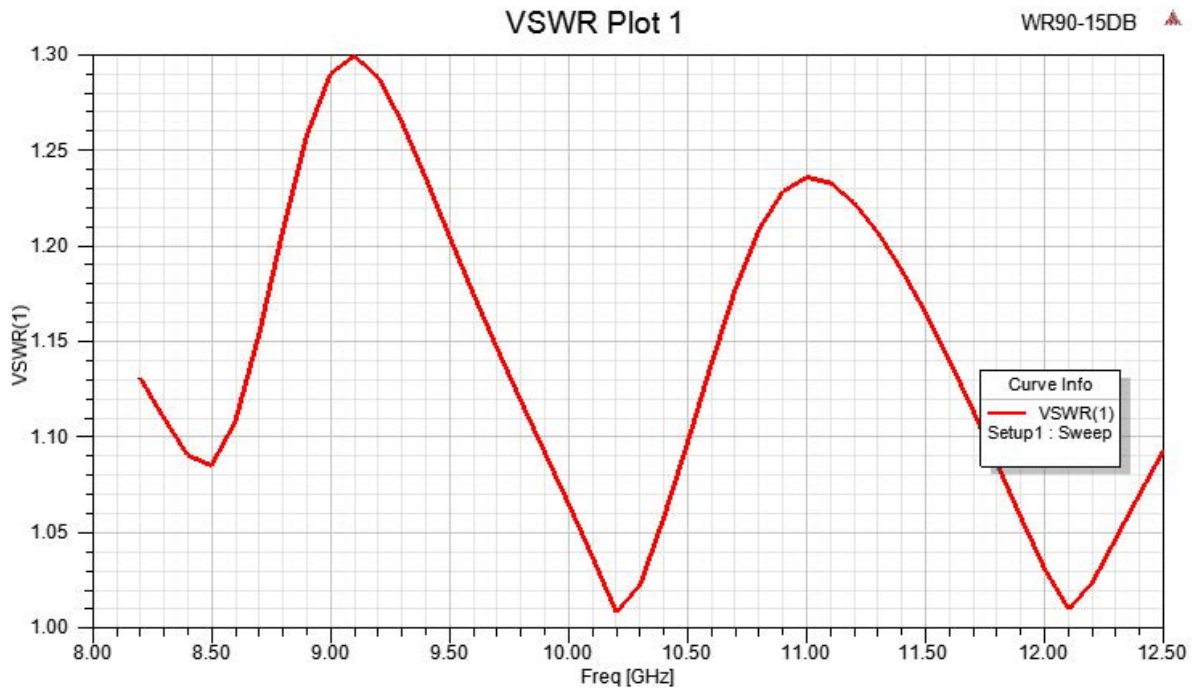


WR-90 Standard Gain Horn with 15 dBi gain, SMA  
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**PE1WAN090-15SF**

### Typical Performance Data



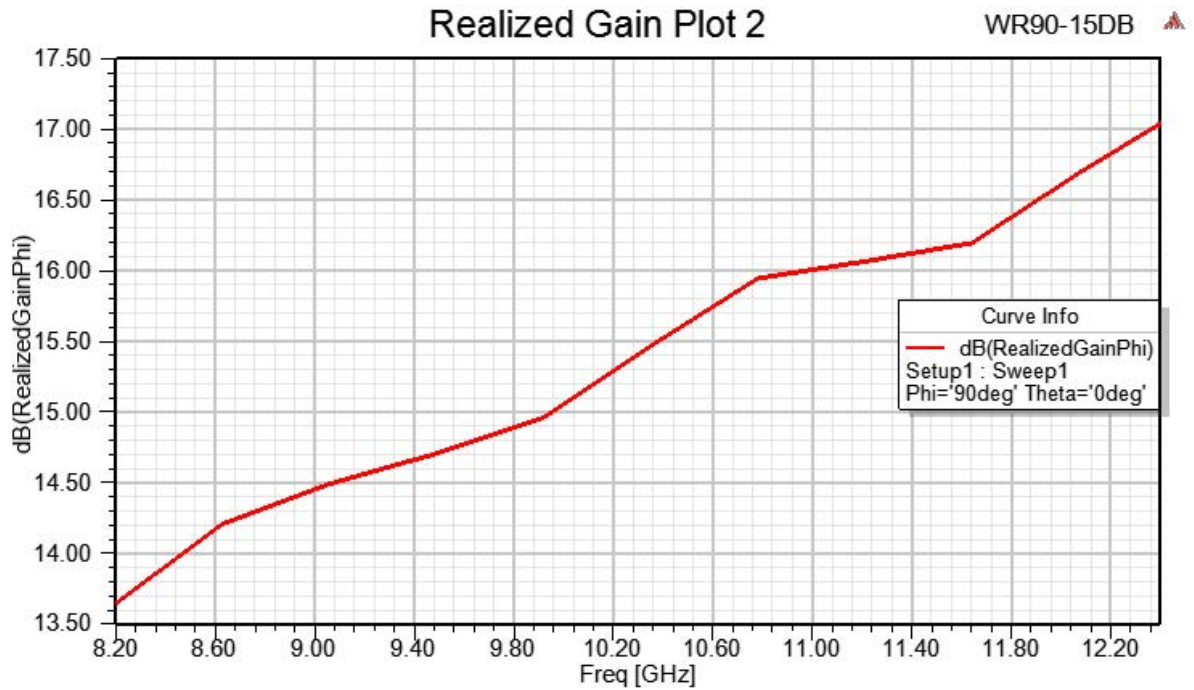
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount PE1WAN090-15SF](#)



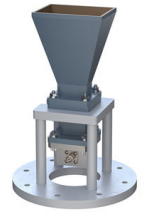
WR-90 Standard Gain Horn with 15 dBi gain, SMA  
Female connector, Integrated Cage-Style Mount

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**PE1WAN090-15SF**



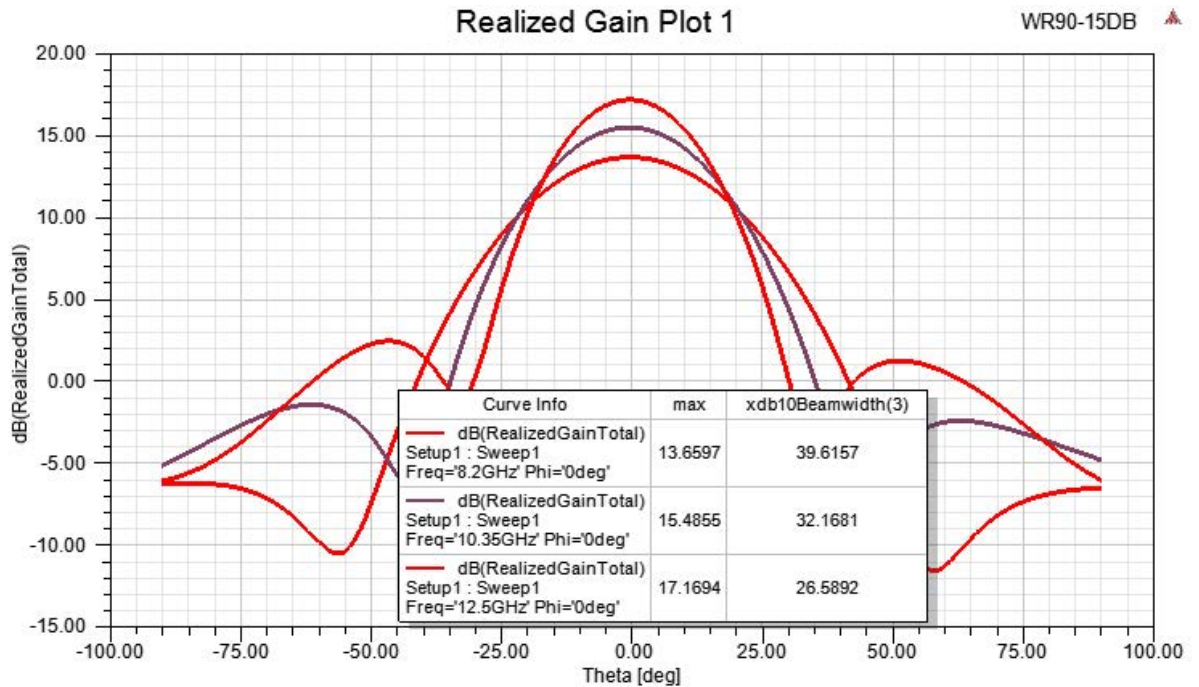
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount PE1WAN090-15SF](#)



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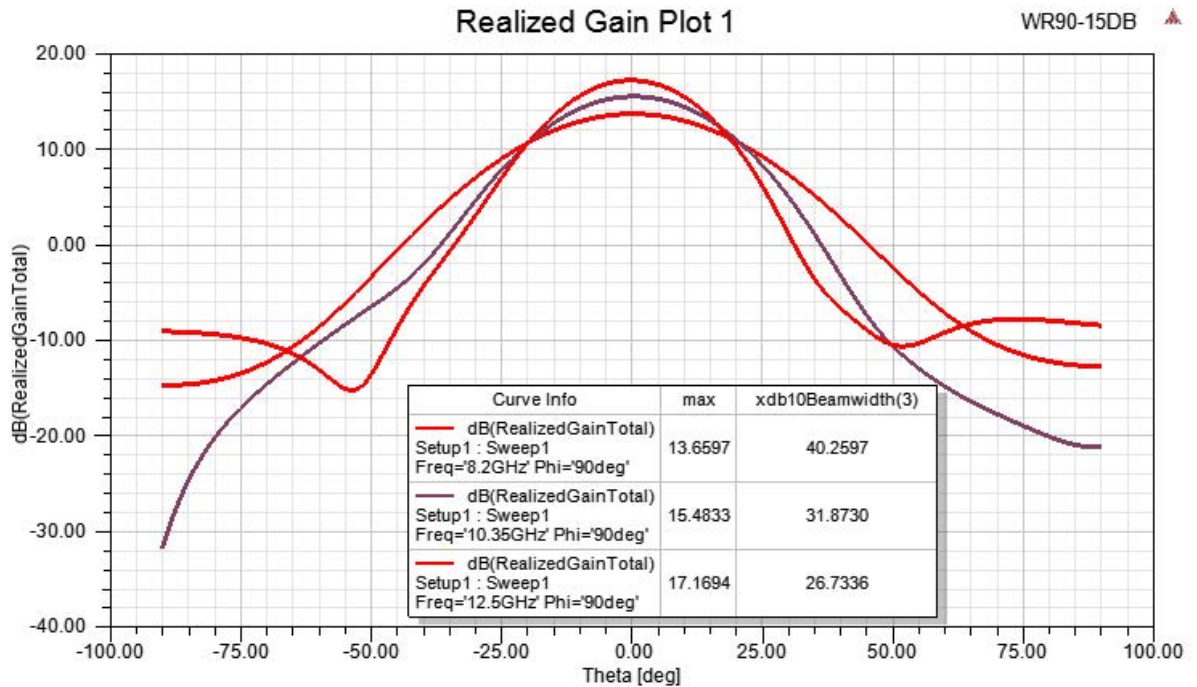




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**PE1WAN090-15SF**



WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount PE1WAN090-15SF](#)

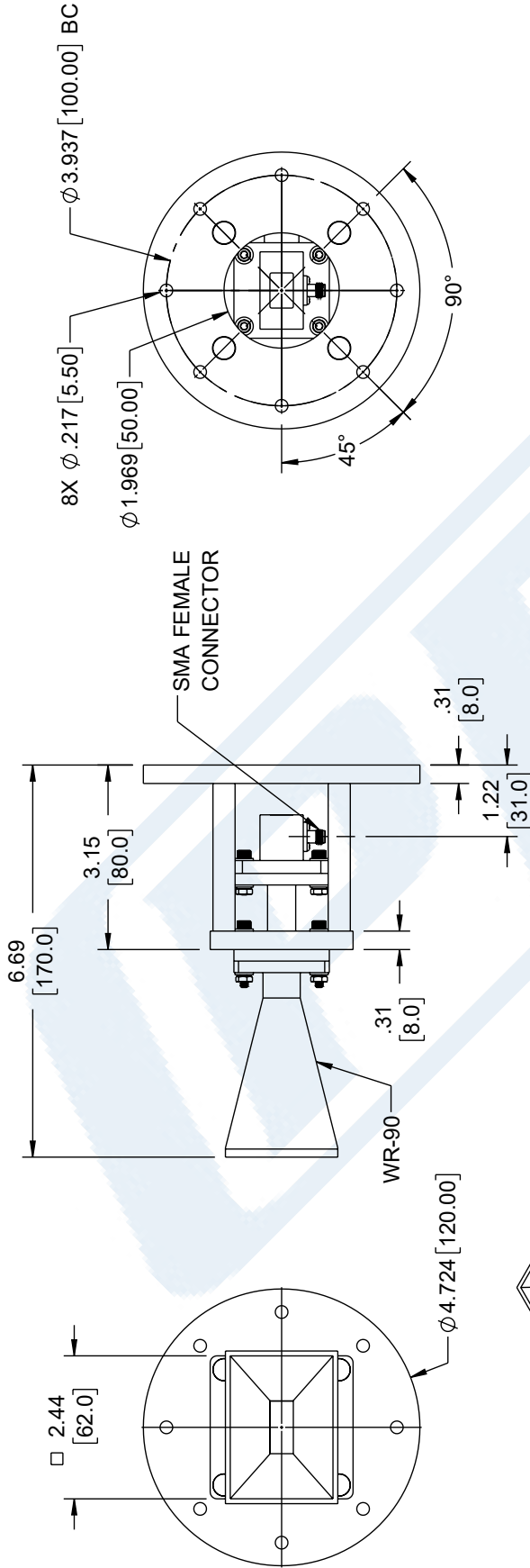
URL: <https://www.pasternack.com/wr-90-standard-gain-horn-with-15-dbi-gain-sma-female-connector-integrated-cage-style-mount-pe1wan090-15sf-p.aspx>


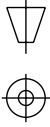
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE1WAN090-15SF CAD Drawing

WR-90 Standard Gain Horn with 15 dBi gain, SMA Female connector, Integrated Cage-Style Mount

REVISION			
ZONE	REV	DESCRIPTION	DATE
	A	INITIAL RELEASE	10/20/2023
		CHANGED BY	APPROVED
		HBAKKE	KHIETPAS



 <b>PASTERNAK</b> an INFINIT@ brand		 INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5	
Website: <a href="http://www.Pasternack.com">www.Pasternack.com</a> Phone: 1.866.727.8376   1.949.261.1920		SCALE	NONE
DESCRIPTION WR-90 STANDARD GAIN HORN WITH 15 DBI GAIN, SMA FEMALE CONNECTOR WITH PRE-INSTALLED CAGE-STYLE MOUNT		SHEET	1 OF 1
SIZE	A	CAGE CODE	53919
REV	A	ITEM NO.	PE1WAN090-15SF

UNLESS OTHERWISE SPECIFIED, LEADING DIMENSIONS ARE IN INCHES, DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS.

TOLERANCES:  
.X = ±.2 [5]  
.XX = ±.02 [0.5]  
.XXX = ±.005 [0.13]  
FRACTIONS  
± 1/32  
ANGLES ± 1°

CABLE LENGTH TOLERANCES:  
≤ 12 [305] = ±.125 [-0]  
≤ 24 [609] = ±.25 [-0]  
≤ 36 [914] = ±.375 [-0]  
≤ 48 [1219] = ±.5 [-0]  
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≤ 3972 [100953] = ±.975 [-0]  
≤ 3984 [101258] = ±.1 [-0]  
≤ 3996 [101563] = ±.125 [-0]  
≤ 4008 [101868] = ±.15 [-0]  
≤ 4020 [102173] = ±.175 [-0]  
≤ 4032 [102478] = ±.2 [-0]  
≤ 4044 [102783] = ±.225 [-0]  
≤ 4056 [103088] = ±.25 [-0]  
≤ 4068 [103393] = ±.275 [-0]  
≤ 4080 [103698] = ±.3 [-0]  
≤ 4092 [104003] = ±.325 [-0]  
≤ 4104 [104308] = ±.35 [-0]  
≤ 4116 [104613] = ±.375 [-0]  
≤ 4128 [104918] = ±.4 [-0]  
≤ 4140 [105223] = ±.425 [-0]  
≤ 4152 [105528] = ±.45 [-0]  
≤ 4164 [105833] = ±.475 [-0]  
≤ 4176 [106138] = ±.5 [-0]  
≤ 4188 [106443] = ±.525 [-0]  
≤ 4200 [106748] = ±.55 [-0]  
≤ 4212 [107053] = ±.575 [-0]  
≤ 4224 [107358] = ±.6 [-0]  
≤ 4236 [107663] = ±.625 [-0]  
≤ 4248 [107968] = ±.65 [-0]  
≤ 4260 [108273] = ±.675 [-0]  
≤ 4272 [108578] = ±.7 [-0]  
≤ 4284 [108883] = ±.725 [-0]  
≤ 4296 [109188] = ±.75 [-0]  
≤ 4308 [109493] = ±.775 [-0]  
≤ 4320 [109798] = ±.8 [-0]  
≤ 4332 [110103] = ±.825 [-0]  
≤ 4344 [110408] = ±.85 [-0]  
≤ 4356 [110713] = ±.875 [-0]  
≤ 4368 [111018] = ±.9 [-0]  
≤ 4380 [111323] = ±.925 [-0]  
≤ 4392 [111628] = ±.95 [-0]  
≤ 4404 [111933] = ±.975 [-0]  
≤ 4416 [112238] = ±.1 [-0]  
≤ 4428 [112543] = ±.125 [-0]  
≤ 4440 [112848] = ±.15 [-0]  
≤ 4452 [113153] = ±.175 [-0]  
≤ 4464 [113458] = ±.2 [-0]  
≤ 4476 [113763] = ±.225 [-0]  
≤ 4488 [114068] = ±.25 [-0]  
≤ 4500 [114373] = ±.275 [-0]  
≤ 4512 [114678] = ±.3 [-0]  
≤ 4524 [114983] = ±.325 [-0]  
≤ 4536 [115288] = ±.35 [-0]  
≤ 4548 [115593] = ±.375 [-0]  
≤ 4560 [115898] = ±.4 [-0]  
≤ 4572 [116203] = ±.425 [-0]  
≤ 4584 [116508] = ±.45 [-0]  
≤ 4596 [116813] = ±.475 [-0]  
≤ 4608 [117118] = ±.5 [-0]  
≤ 4620 [117423] = ±.525 [-0]  
≤ 4632 [117728] = ±.55 [-0]  
≤ 4644 [118033] = ±.575 [-0]  
≤ 4656 [118338] = ±.6 [-0]  
≤ 4668 [118643] = ±.625 [-0]  
≤ 4680 [118948] = ±.65 [-0]  
≤ 4692 [119253] = ±.675 [-0]  
≤ 4704 [119558] = ±.7 [-0]  
≤ 4716 [119863] = ±.725 [-0]  
≤ 4728 [120168] = ±.75 [-0]  
≤ 4740 [120473] = ±.775 [-0]  
≤ 4752 [120778] = ±.8 [-0]  
≤ 4764 [121083] = ±.825 [-0]  
≤ 4776 [121388] = ±.85 [-0]  
≤ 4788 [121693] = ±.875 [-0]  
≤ 4800 [121998] = ±.9 [-0]  
≤ 4812 [122303] = ±.925 [-0]  
≤ 4824 [122608] = ±.95 [-0]  
≤ 4836 [122913] = ±.975 [-0]  
≤ 4848 [123218] = ±.1 [-0]  
≤ 4860 [123523] = ±.125 [-0]  
≤ 4872 [123828] = ±.15 [-0]  
≤ 4884 [124133] = ±.175 [-0]  
≤ 4896 [124438] = ±.2 [-0]  
≤ 4908 [124743] = ±.225 [-0]  
≤ 4920 [125048] = ±.25 [-0]  
≤ 4932 [125353] = ±.275 [-0]  
≤ 4944 [125658] = ±.3 [-0]  
≤ 4956 [125963] = ±.325 [-0]  
≤ 4968 [126268] = ±.35 [-0]  
≤ 4980 [126573] = ±.375 [-0]  
≤ 4992 [126878] = ±.4 [-0]  
≤ 5004 [127183] = ±.425 [-0]  
≤ 5016 [127488] = ±.45 [-0]  
≤ 5028 [127793] = ±.475 [-0]  
≤ 5040 [128098] = ±.5 [-0]  
≤ 5052 [128403] = ±.525 [-0]  
≤ 5064 [128708] = ±.55 [-0]  
≤ 5076 [129013] = ±.575 [-0]  
≤ 5088 [129318] = ±.6 [-0]  
≤ 5100 [129623] = ±.625 [-0]  
≤ 5112 [129928] = ±.65 [-0]  
≤ 5124 [130233] = ±.675 [-0]  
≤ 5136 [130538] = ±.7 [-0]  
≤ 5148 [130843] = ±.725 [-0]  
≤ 5160 [131148] = ±.75 [-0]  
≤ 5172 [131453] = ±.775 [-0]  
≤ 5184 [131758] = ±.8 [-0]  
≤ 5196 [132063] = ±.825 [-0]  
≤ 5208 [132368] = ±.85 [-0]  
≤ 5220 [132673] = ±.875 [-0]  
≤ 5232 [132978] = ±.9 [-0]  
≤ 5244 [133283] = ±.925 [-0]  
≤ 5256 [133588] = ±.95 [-0]  
≤ 5268 [133893] = ±.975 [-0]  
≤ 5280 [134198] = ±.1 [-0]  
≤ 5292 [134503] = ±.125 [-0]  
≤ 5304 [134808] = ±.15 [-0]  
≤ 5316 [135113] = ±.175 [-0]  
≤ 5328 [135418] = ±.2 [-0]  
≤ 5340 [135723] = ±.225 [-0]  
≤ 5352 [136028] = ±.25 [-0]  
≤ 5364 [136333] = ±.275 [-0]  
≤ 5376 [136638] = ±.3 [-0]  
≤ 5388 [136943] = ±.325 [-0]  
≤ 5400 [137248] = ±.35 [-0]  
≤ 5412 [137553] = ±.375 [-0]  
≤ 5424 [137858] = ±.4 [-0]  
≤ 5436 [138163] = ±.425 [-0]  
≤ 5448 [138468] = ±.45 [-0]  
≤ 5460 [138773] = ±.475 [-0]  
≤ 5472 [139078] = ±.5 [-0]  
≤ 5484 [13