

3.2X1.6X0.5 (mm) WiFi/Bluetooth Ceramic Chip Antenna (YF300D-2) Engineering Specification

1. Product Number

YF	3216	FF	P	2G45	02
1	2	3	4	5	6



(1)Product Type	Chip Antenna
(2)Size Code	3.2x1.6mm
(3)Type Code	FH
(4)Packing	Paper Tape

2. Features

- *Stable and reliable in performances
- *Low temperature coefficient of frequency
- *Low profile, compact size
- *RoHS compliance
- *SMT processes compatible



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SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

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3. Applications

- *Bluetooth earphone systems
- *Hand-held devices when WiFi /Bluetooth functions are needed, e.g., Smart phone.
- *IEEE802.11 b/g/n
- *ZigBee
- *Wireless PCMCIA cards or USB dongle

4. Description

Yingfeng chip antenna series are specially designed for WiFi/Bluetooth applications. Based on yingfeng proprietary design and processes, this chip antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications (80 x 40 mm² ground plane)

5-1. Electrical Table

Characteristics		Specifications	Unit
Outline Dimensions		3.2x1.6x0.5	mm
Working Frequency		2400~2500	MHz
VSWR		2 Max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	3.5	dBi
	Efficiency	78	%



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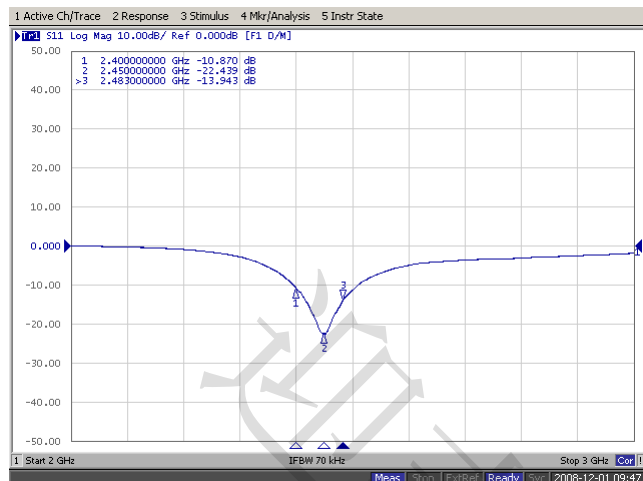
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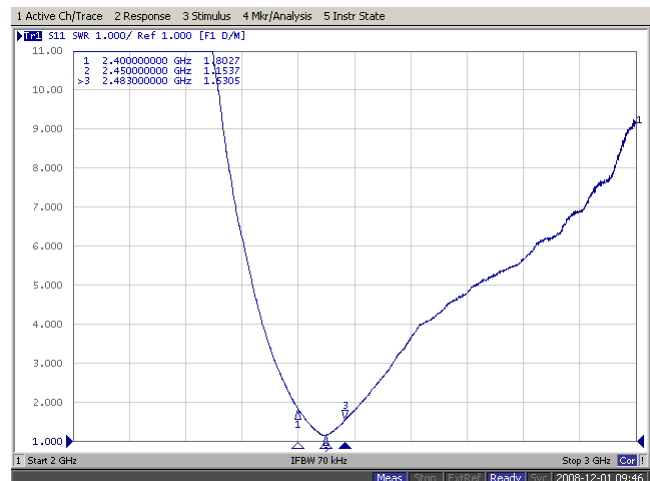
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5-2. Return Loss & VSWR

Return Loss (S_{11})



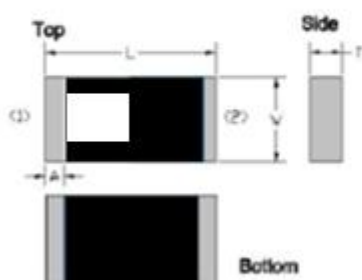
VSWR(S_{11})



6. Antenna Dimensions & Test Board (unit: mm)

- Antenna Dimensions
- Test Board with Antenna

Dimension and Terminal Configuration



Dimension (mm)	
L	3.15±0.15
W	1.55±0.15
T	0.50±0.10
A	0.35±0.10

No.	Terminal Name
1	Feeding point
2	GND



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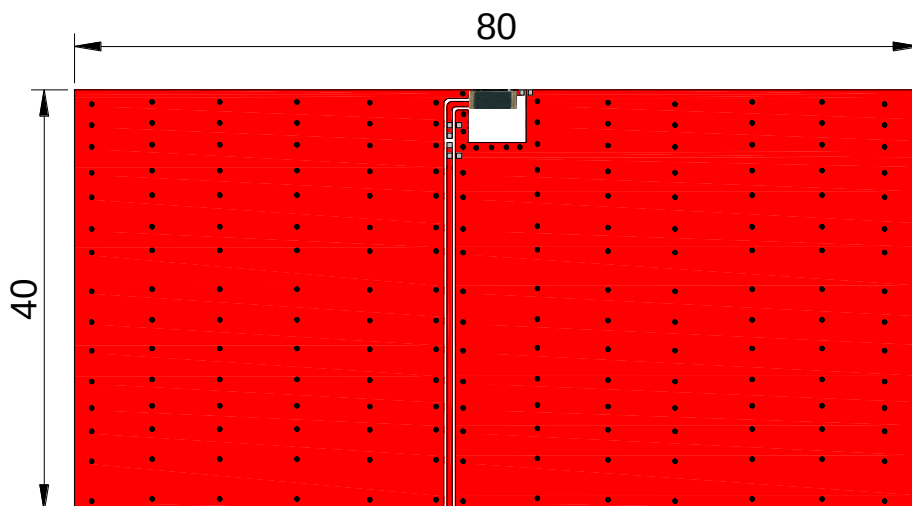
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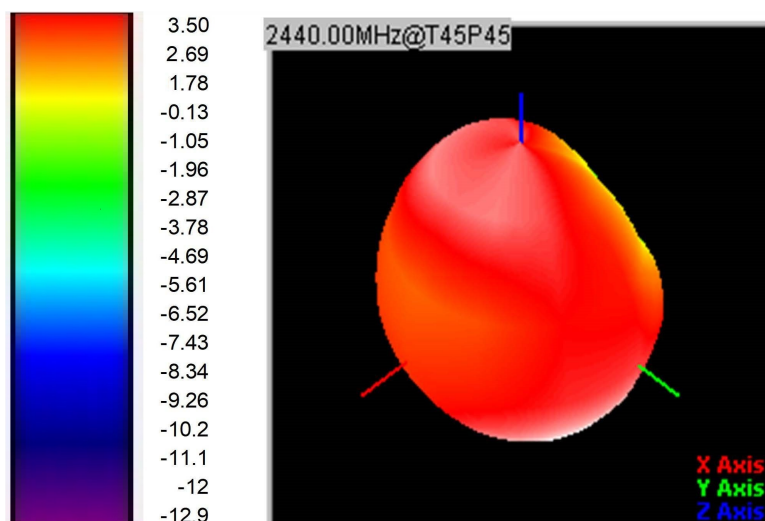
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Unit: mm

7. Radiation Pattern

7-1. 3D Gain Pattern @ 2440MHz



Frequency(MHz)	MaxGain(dBi)
2440	3.5



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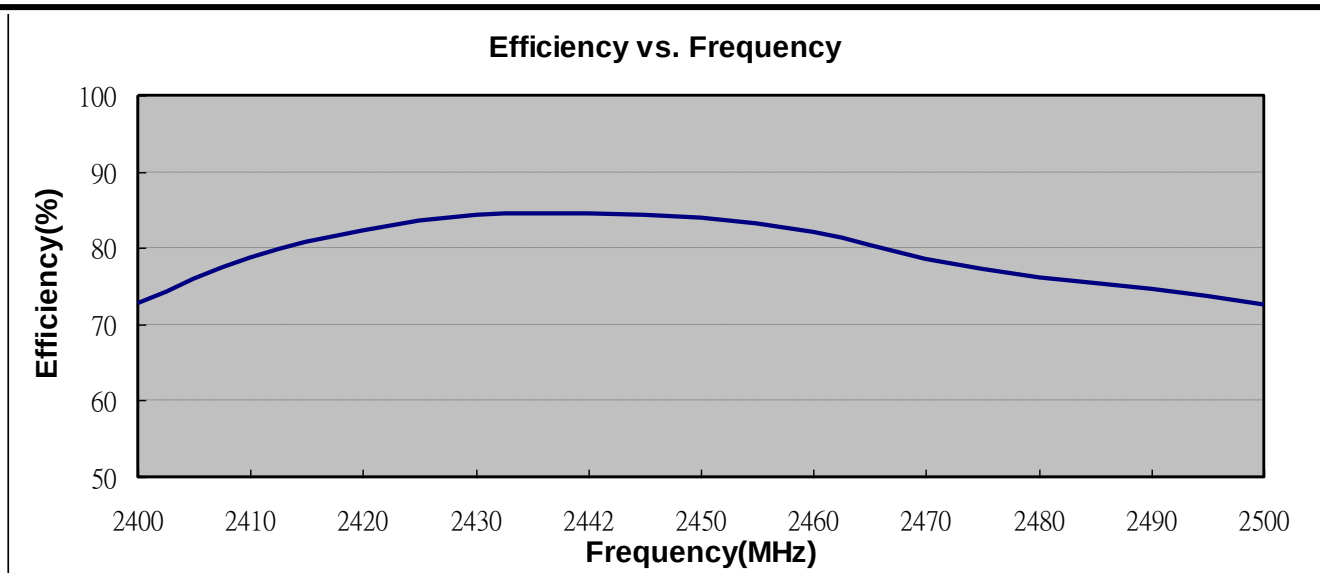
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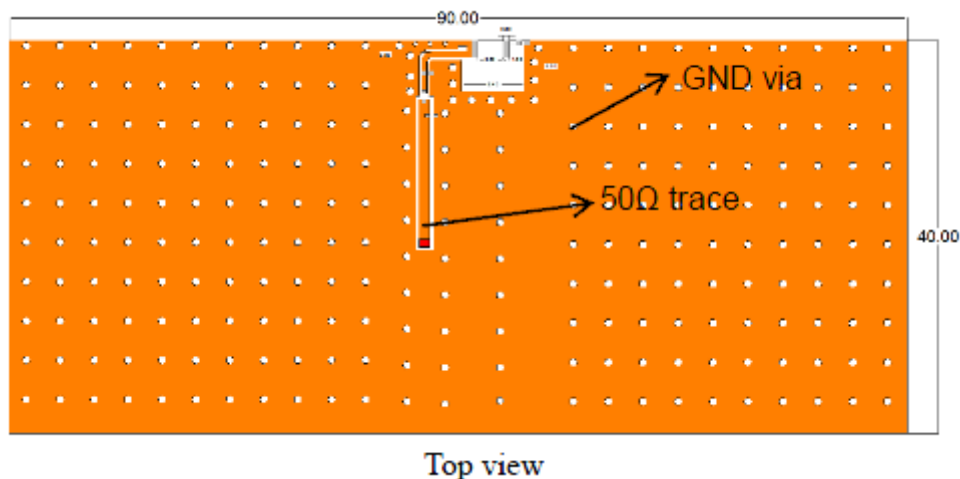
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8. Layout Guide

a. Solder Land Pattern:

Land pattern for soldering (gray marking areas) is as shown below. Depending on Customer's requirement, matching circuit as shown below is also recommended.



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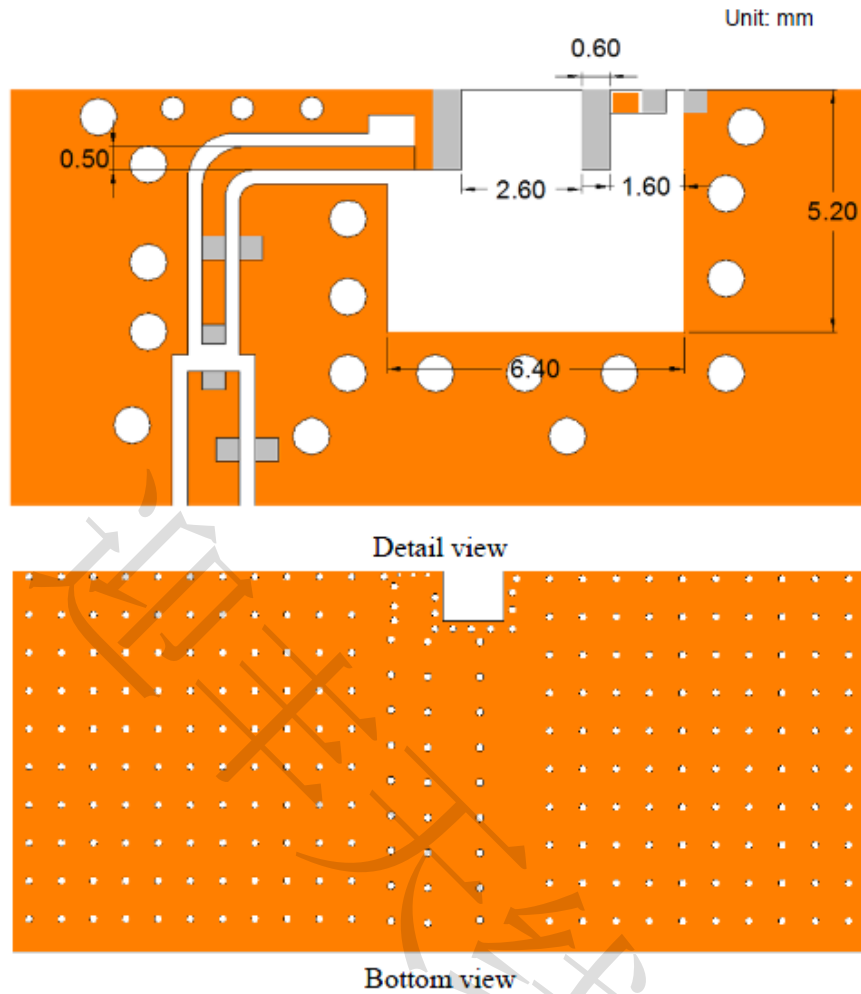
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9. Frequency tuning

a. Chip antenna tuning scenario:

Feed

4. Fine tuning element



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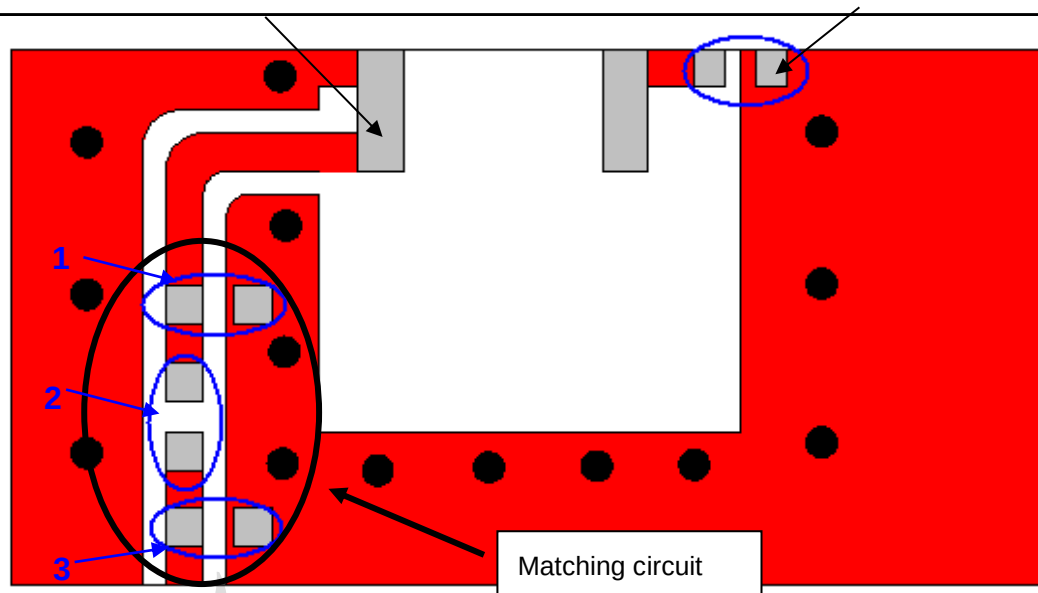
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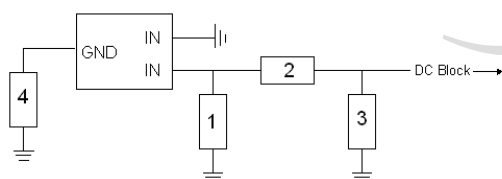
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b. Matching circuit : (Center frequency is about 2442 MHz @ 80 x 40 mm² ground plane)



System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1	1.2 pF*	Murata (0402)	±0.1 pF
2	10PF*	Murata(0402)	±0.5 PF
3	N/A*	-	-
Fine tuning element 4	22pF*	Murata (0402)	±0.1 pF

*Typical reference values which may need to be changed when circuit boards or part vendors are different.

c. Fine tuning element vs. Center frequency



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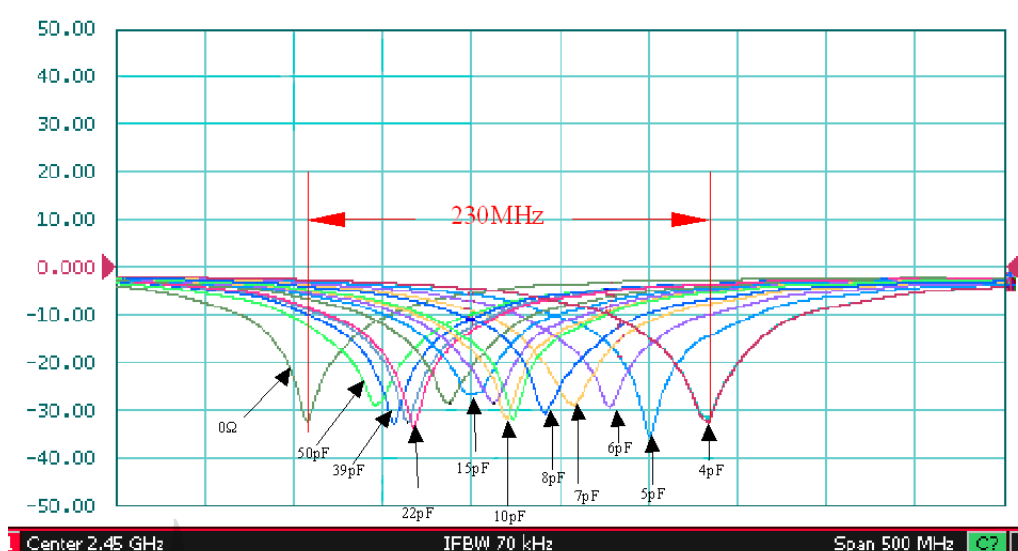
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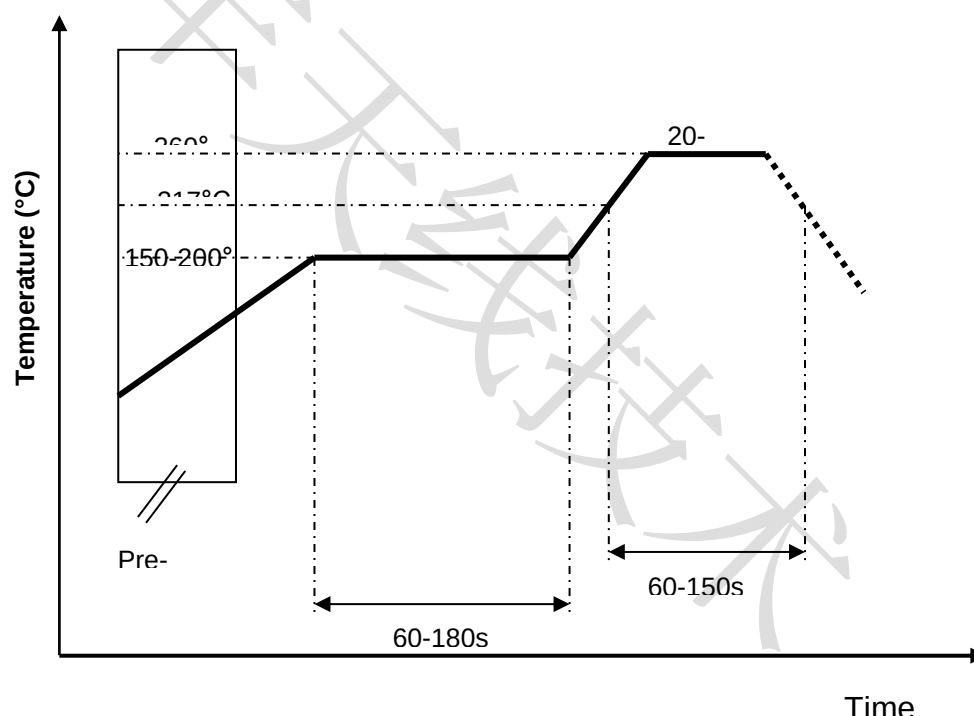
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10. Soldering Conditions

a. Typical Soldering Profile for Lead-free Process



11. Packing

(1) Quantity/Reel: 5000 pcs/Reel:



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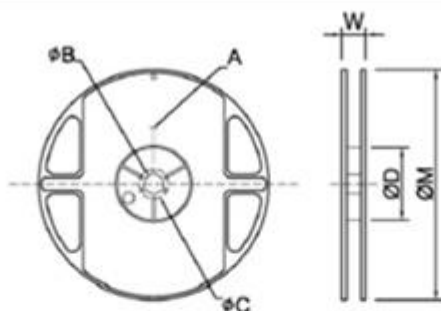
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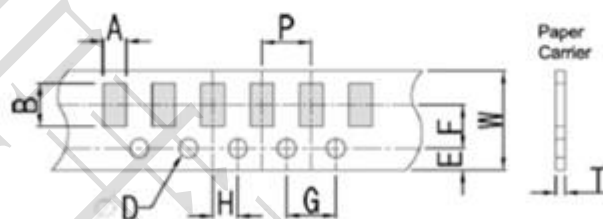
Reel and Taping Specification

Reel Specification



TYPE	SIZE		A	ϕB	ϕC	ϕD	W	ϕM
3216	7"	5K/Reel	2.0 $\pm$ 0.5	13.5 $\pm$ 1.0	21 $\pm$ 1.0	60 $\pm$ 1.0	11.5 $\pm$ 2.0	178 $\pm$ 2.0

Tapping Specification



Packaging	Type	A	B	W	E	F	G	H	T	ϕD	P
Paper Type	3216	1.90 $\pm$ 0.20	3.50 $\pm$ 0.20	8.0 $\pm$ 0.20	1.75 $\pm$ 0.10	3.5 $\pm$ 0.05	4.0 $\pm$ 0.10	2.0 $\pm$ 0.05	0.75 $\pm$ 0.10	1.50 $\pm$ 0.10	4.0 $\pm$ 0.1



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