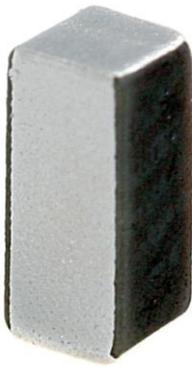


**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

**PART NUMBER:** W3043



### Features:

- Multipurpose for various frequency applications
  - Option 1: GPS 1.575GHz
  - Option 2: WiFi 2.4-2.485GHz
- Compact size W x L x H:  
(3.2 x 1.6 x 1.1 mm)
- Low weight (33 mg)
- Fully SMD compatible
- Tape and reel packing

### Applications:

- GPS
- Bluetooth, WLAN, WiFi, BLE
- IEEE 802.11a/b/g/n
- ZigBee IEEE 802.15.4
- 2.4 GHz ISM Band Systems

All dimensions are in mm / inches

Issue: 1920

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99 Huo Ju Road(#29 Bldg,4<sup>th</sup> Phase  
Suzhou New District  
Jiangsu Province, Suzhou 215009 PR China  
Tel: 86 512 6807 9998



**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

**PART NUMBER:** W3043

**ELECTRICAL SPECIFICATIONS**

Antenna Type	Monopole
Frequency option1 @ GPS	1565-1585MHz
Frequency option2 @ Wifi	2400-2485MHz
Nominal Impedance	50 Ω
Radiation Pattern	Omni
Return Loss	-15 / -12 dB
Gain	2.1 / 4.5 dBi
Efficiency	38 / 45 %
Polarization	Vertical

**MECHANICAL SPECIFICATIONS**

Size	3.2 x 1.6 x 1.1 mm
Weight	0.03 g
MSL (Moisture Sensitivity Level)	1

**ENVIRONMENTAL SPECIFICATIONS**

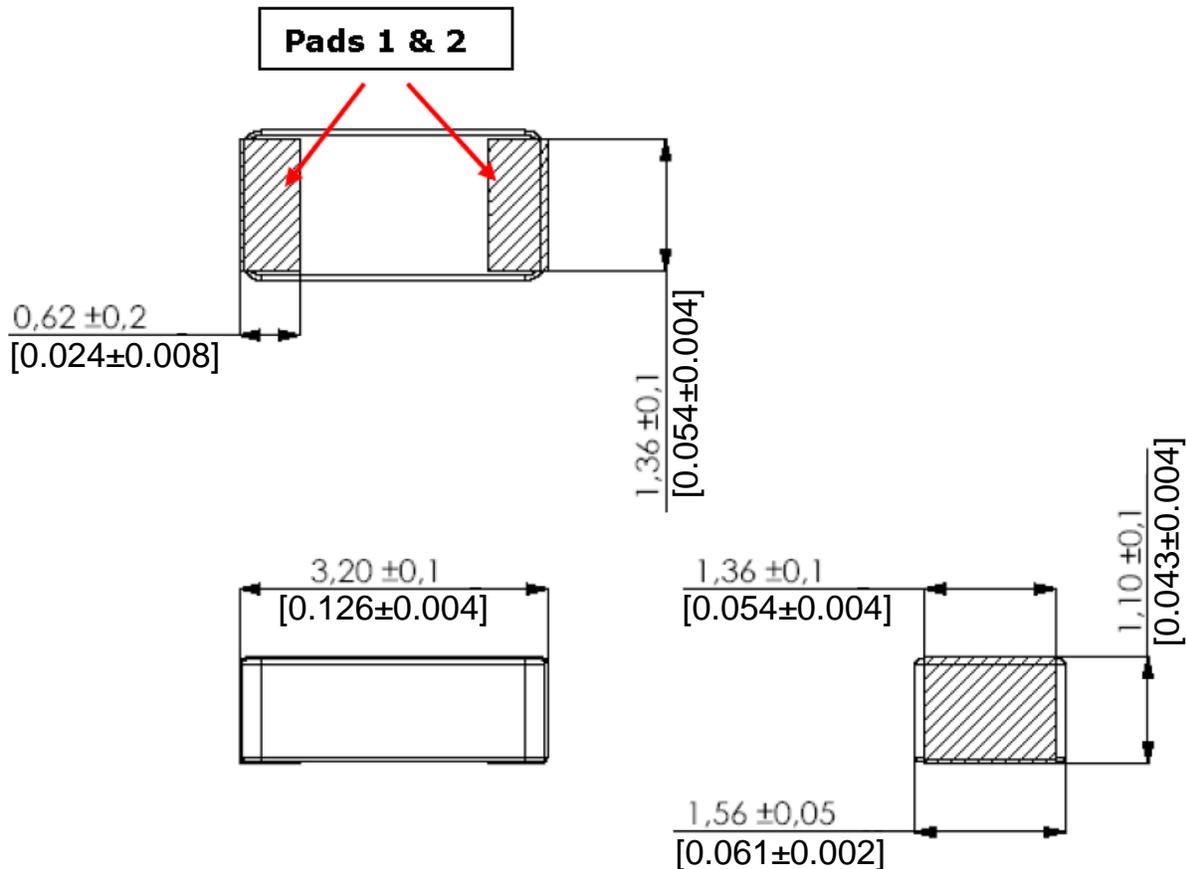
Operating Temperature	-40~85 °C
Storage Temperature	-40~85 °C
RoHS Compliant	Yes

Description: Monopole GPS, BT, WiFi

Series : Chip Antenna

PART NUMBER: W3043

**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**



Antenna features		
No.	Terminal Name	Terminal Dimensions
1	Feed / Support	0.62 x 1.36 mm
2	Feed / Support	0.62 x 1.36 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / Support		

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**Description:** Monopole GPS, BT, WiFi

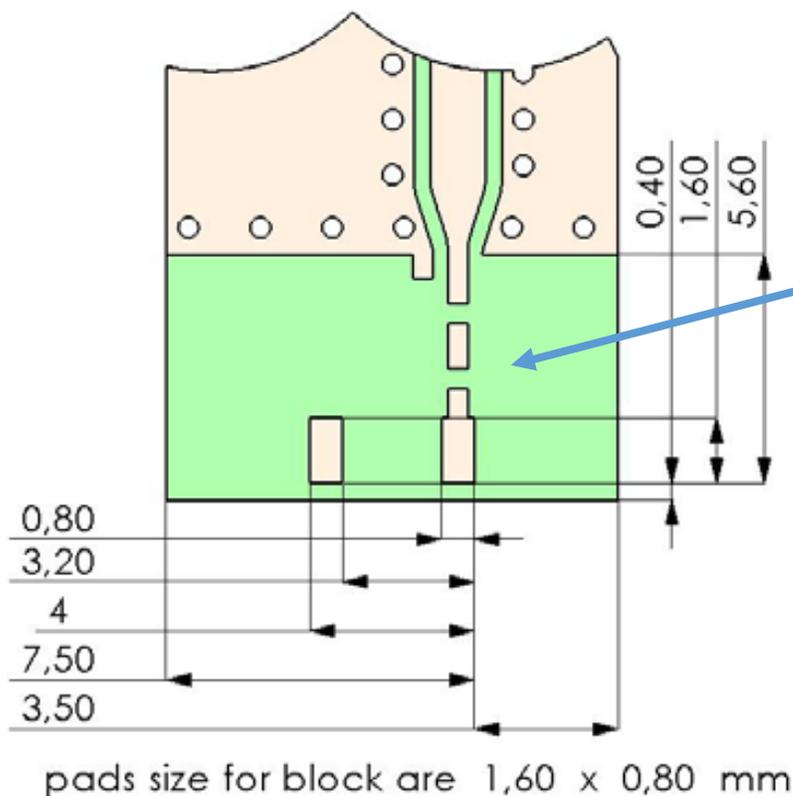
**Series :** Chip Antenna

**PART NUMBER:** W3043

**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

**1. GROUND CLEARANCE AREA**

Pad dimensions in top copper



All metallization should be removed from all PWB layers.  
Clearance area dimensions can be adjusted to available board space.

PWB manufacturing requirements according to IPC-A-600 revision G or similar.

**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

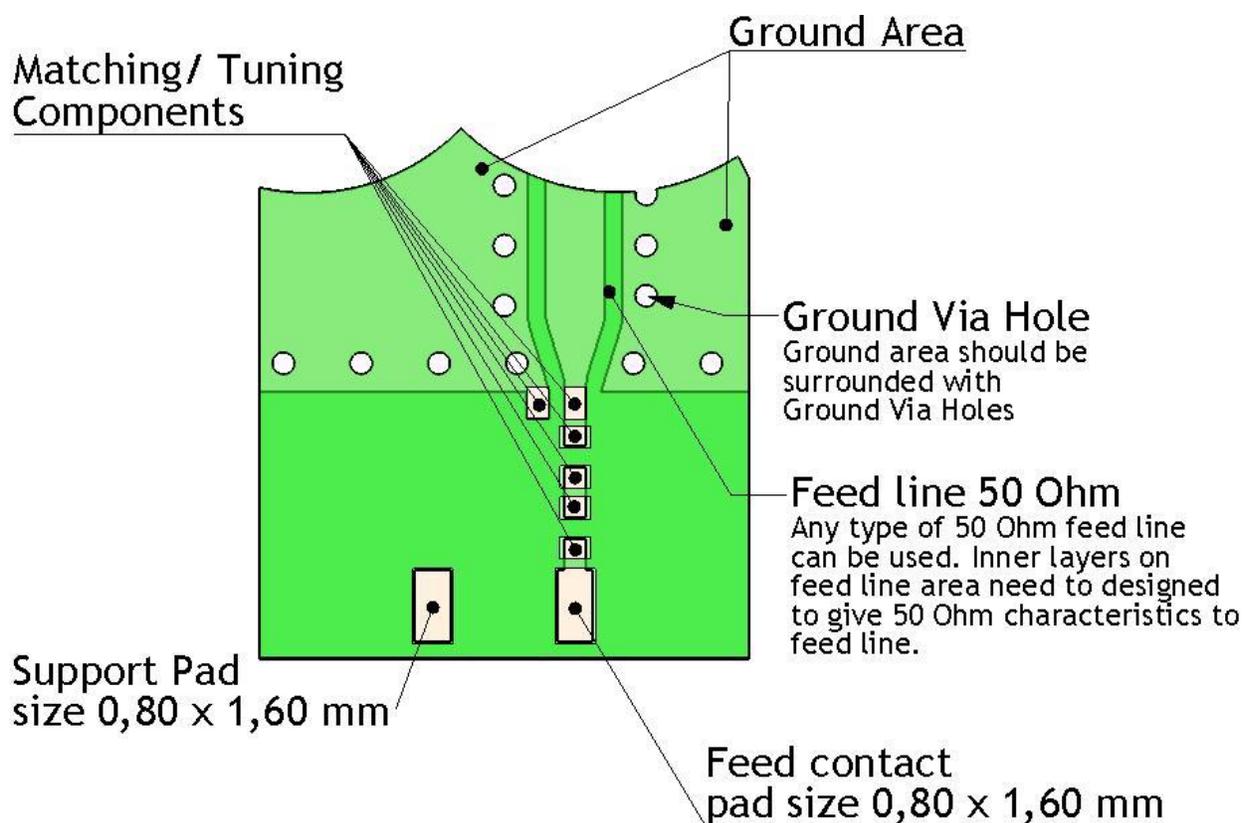
**PART NUMBER:** W3043

**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

**2. MATCHING/TUNING COMPONENTS**

Component values depend on used ground clearance area and other device mechanics.

Copper extension on board can be used for frequency fine tuning.



PWB features		
No.	Terminal Name	Terminal Dimensions
1	Feed	0.8 x 1.60 mm
2	Mech support pad	0.8 x 1.60 mm

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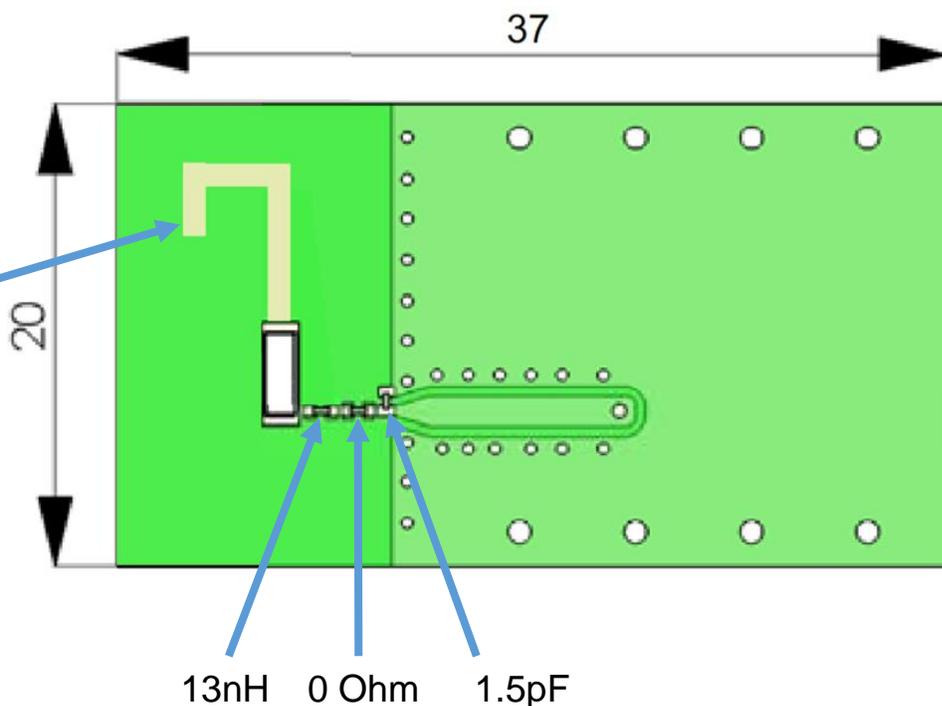
**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

**3. TYPICAL ELECTRICAL CHARACTERISTICS (T=25 °C)**

*Measured on 37x20mm test board, ground clearance area 12x20mm*

W3043 GPS:

Optional frequency fine tuning done with metal strip on board



**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

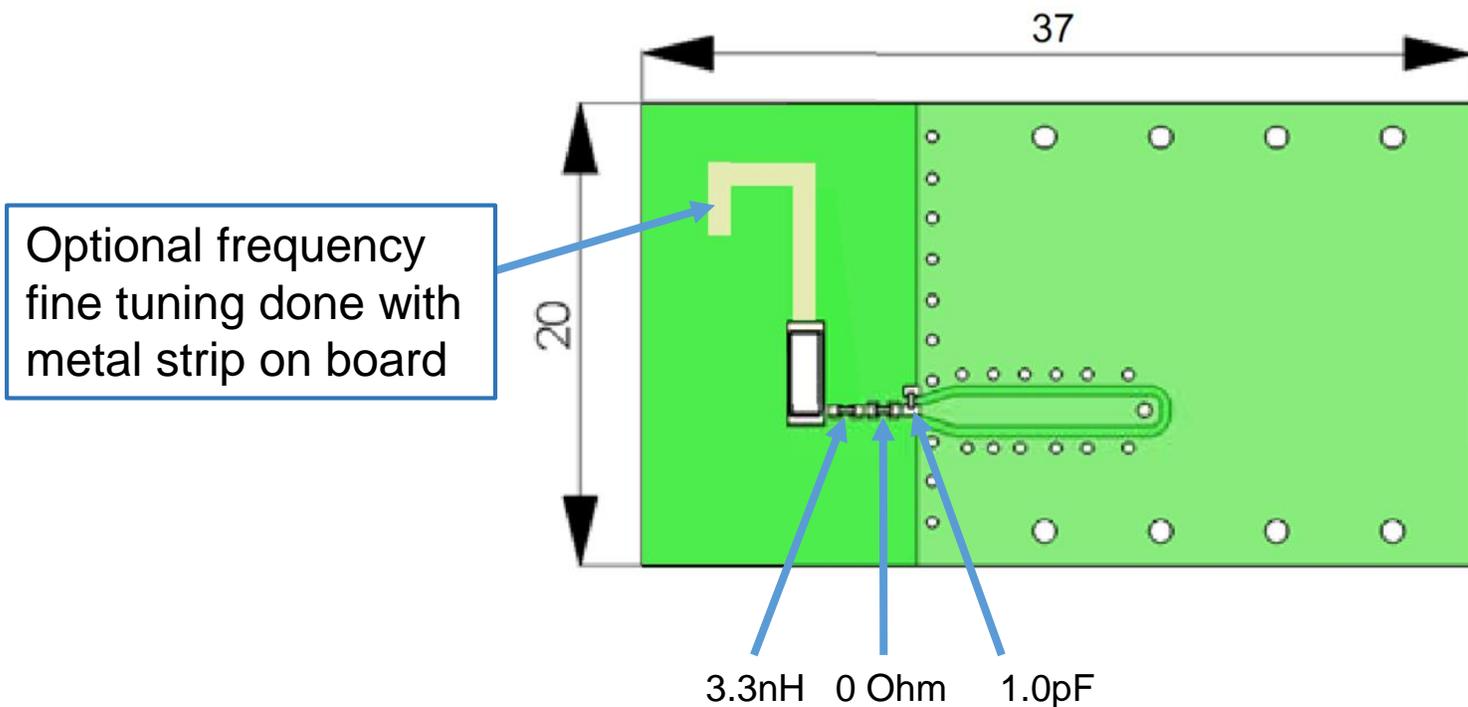
**PART NUMBER:** W3043

**MECHANICAL DRAWING AND TERMINAL CONFIGURATION**

**3. TYPICAL ELECTRICAL CHARACTERISTICS (T=25 °C)**

*Measured on 37x20mm test board, ground clearance area 12x20mm*

W3043 BT, WLAN, WiFi 2.4GHz:



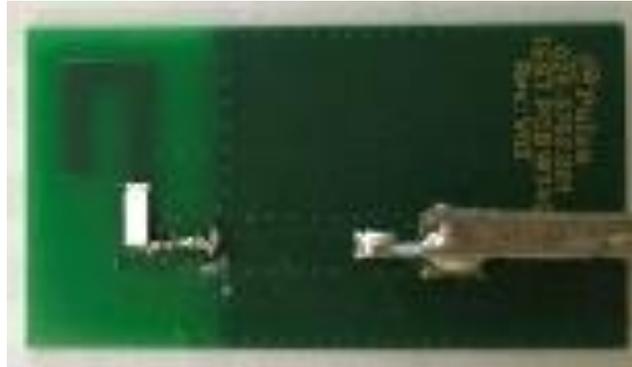
**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

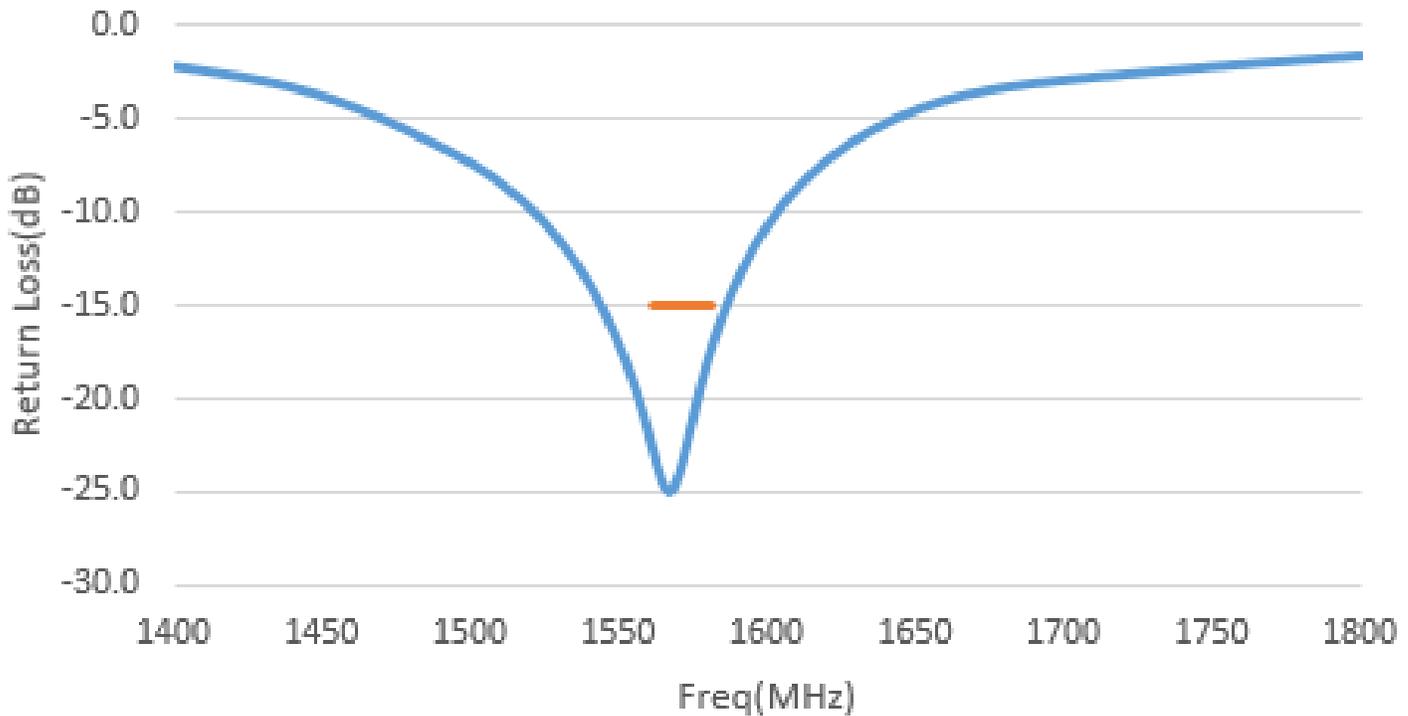
**PART NUMBER:** W3043

**CHARTS**

Test set up



**Return Loss @ GPS**



Issue: 1920

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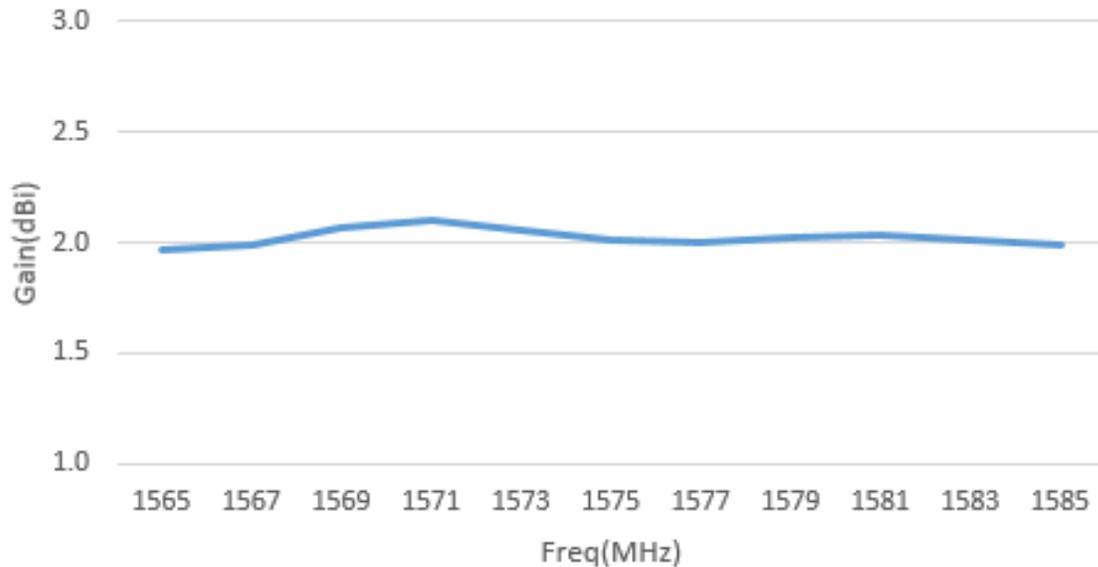
**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

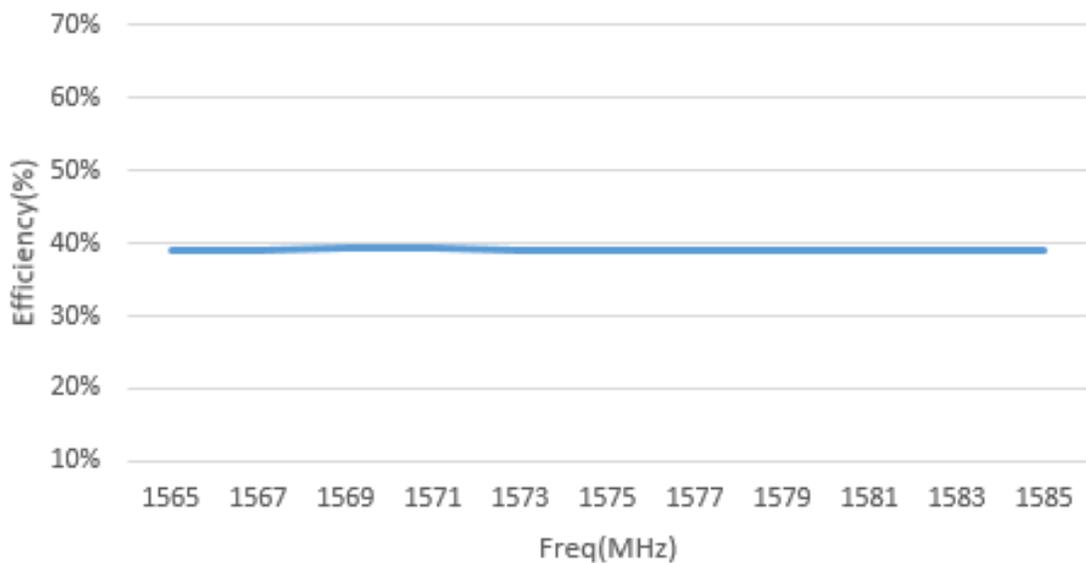
**PART NUMBER:** W3043

**CHARTS**

**Peak gain @ GPS**



**Efficiency @ GPS**



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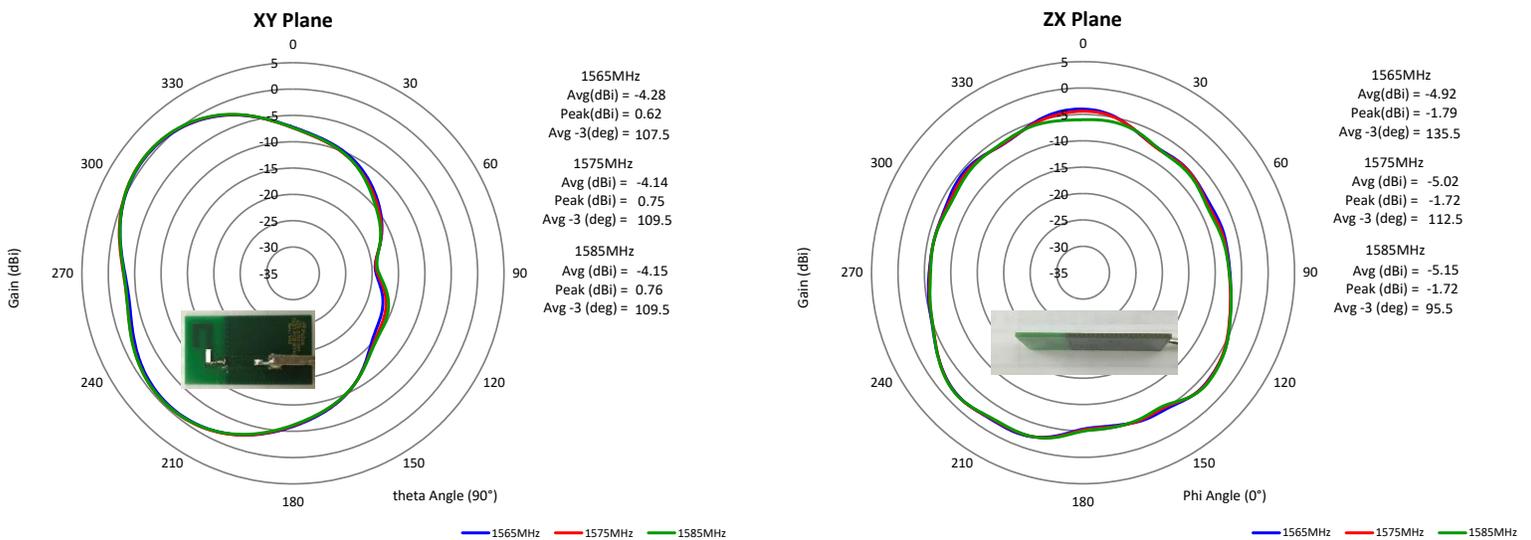
**Description: Monopole GPS, BT, WiFi**

**Series : Chip Antenna**

**PART NUMBER: W3043**

**CHARTS**

**Radiation pattern @ GPS**



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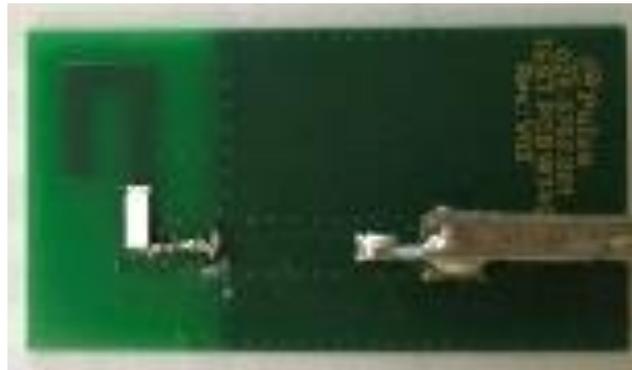
Description: Monopole GPS, BT, WiFi

Series : Chip Antenna

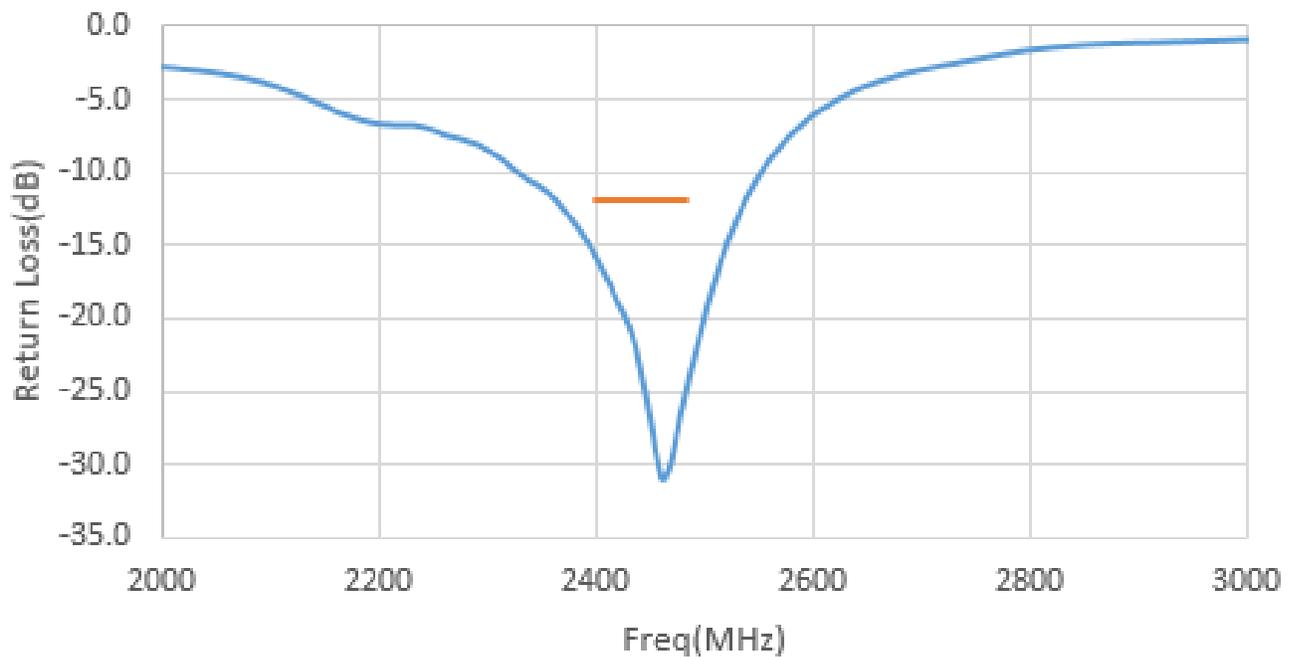
PART NUMBER: W3043

CHARTS

Test set up



Return Loss @ Wifi



Issue: 1920

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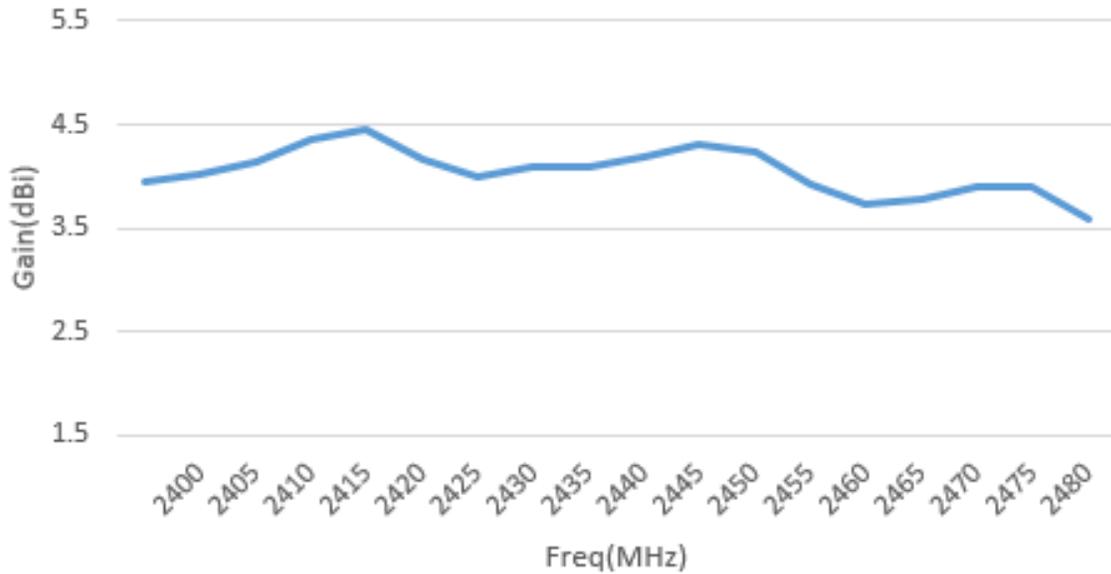
**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

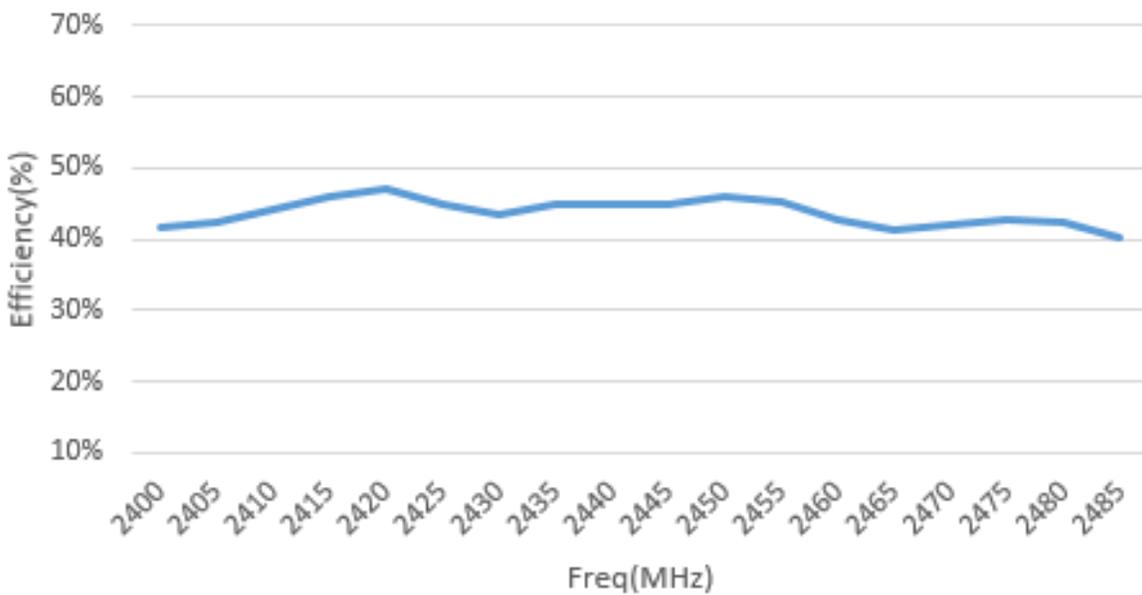
**PART NUMBER:** W3043

**CHARTS**

**Peak gain @ Wifi**



**Efficiency @ Wifi**



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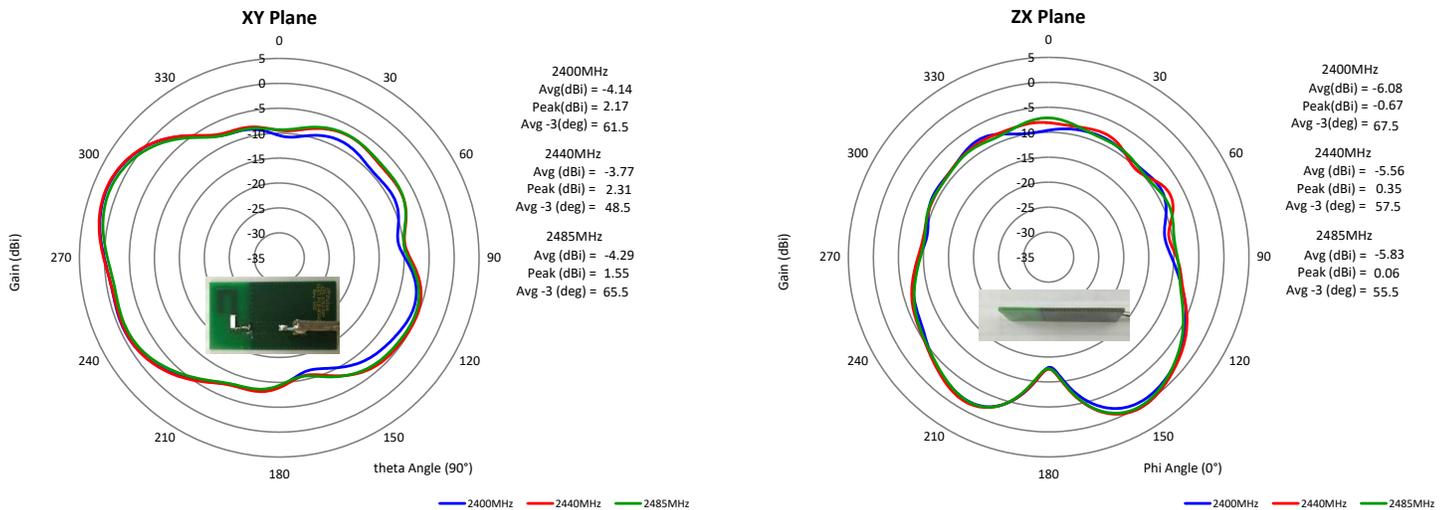
Description: Monopole GPS, BT, WiFi

Series : Chip Antenna

PART NUMBER: W3043

CHARTS

Radiation pattern @ Wifi



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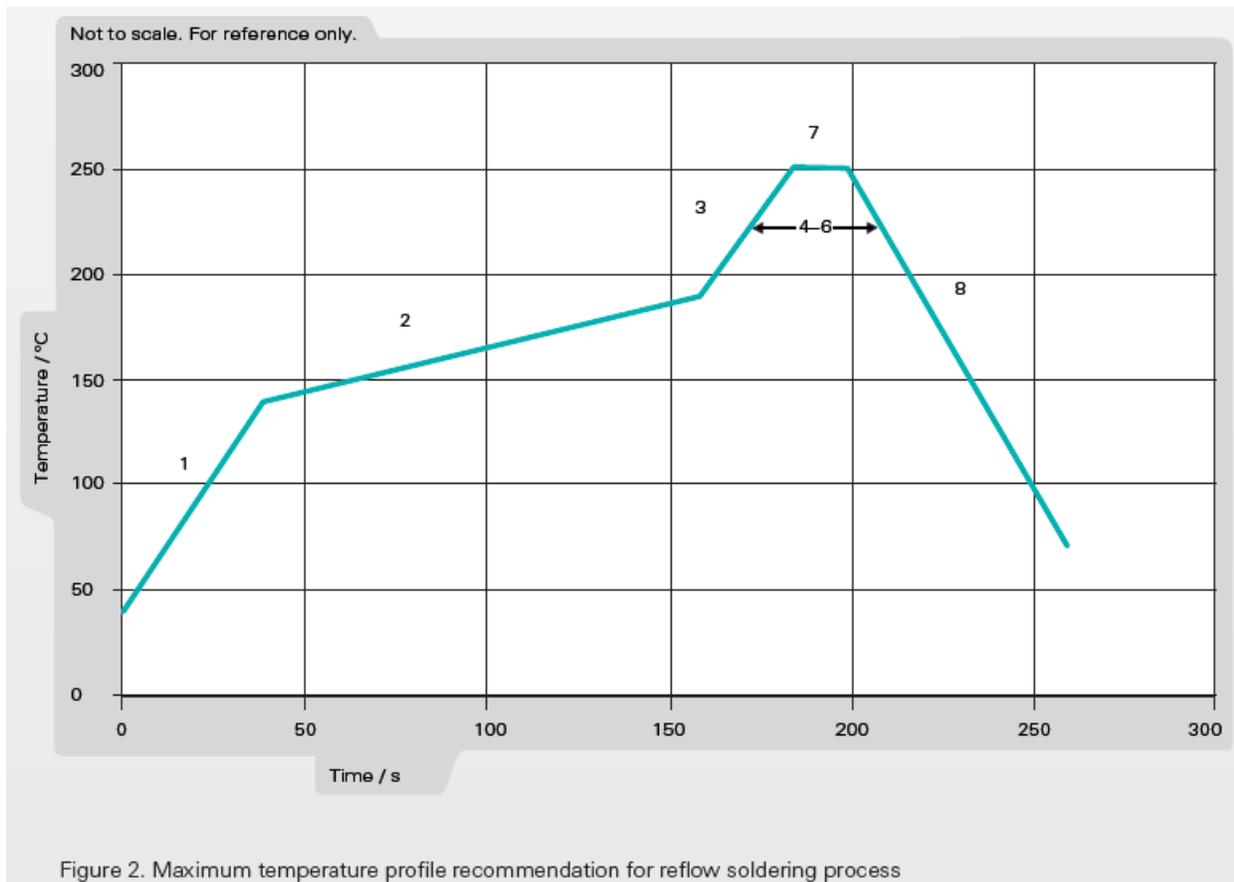
**Description: Monopole GPS, BT, WiFi**

**Series : Chip Antenna**

**PART NUMBER: W3043**

**Recommendation for reflow soldering process**

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 60 sec
5	Time above 230 °C	Max 50 sec
6	Time above 250 °C	Max 10 sec
7	Peak temperature in reflow	260 °C for 5 seconds
8	Temperature gradient in cooling	Max -5 °C/s



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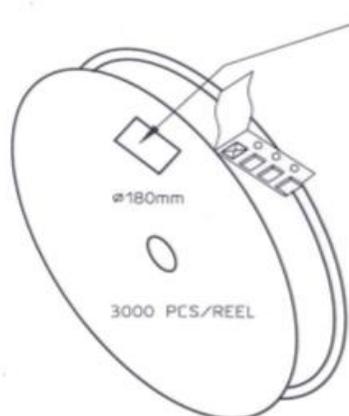
**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

**PART NUMBER:** W3043

**PACKAGING**

Tape and reel packing is used.  
3000pcs antenna/reel, 10 reels/inbox, 2 inbox(60000pcs antenna)/outbox.



REEL LABEL INFORMATION:

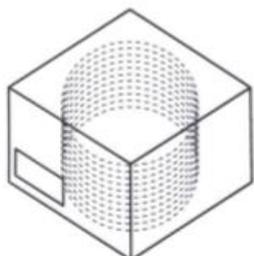
- TRACEABILITY
- QUANTITY
- PRODUCT CODE

CARRIER TAPE H85-00125  
width=8,00 depth=1,22  
COVER TAPE H85-00126  
width=5,60

LENGTH OF TAPE:

- Leader section: min 350 mm before component section
- Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.



- |                                |            |
|--------------------------------|------------|
| BOX H85-00128<br>(182x182x132) | 1 pcs      |
| - LABEL                        | 1 pcs/BOX  |
| REEL H85-00127<br>(D180, W12)  | 10 pcs     |
| - REEL LABEL                   | 1 pcs/REEL |



<b>LEVEL</b>
<p><b>NOT MOISTURE SENSITIVE</b></p> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px; font-weight: bold;">1</div>
<p>These Devices do not require special storage conditions provided:</p> <ol style="list-style-type: none"> <li>1. They are maintained at conditions equal to or less than 30°C and 85% RH.</li> <li>2. They are solder reflowed at a peak body temperature which does not exceed 260°C.</li> </ol> <p>Note: Level and body temperature defined by IPC/JEDEC J-STD-020</p>

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