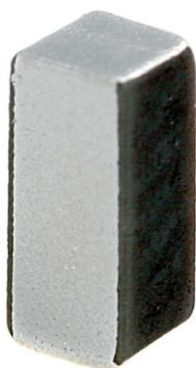


**Description:** Monopole GPS, BT, WiFi

**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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Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.  
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 $\Omega$
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**

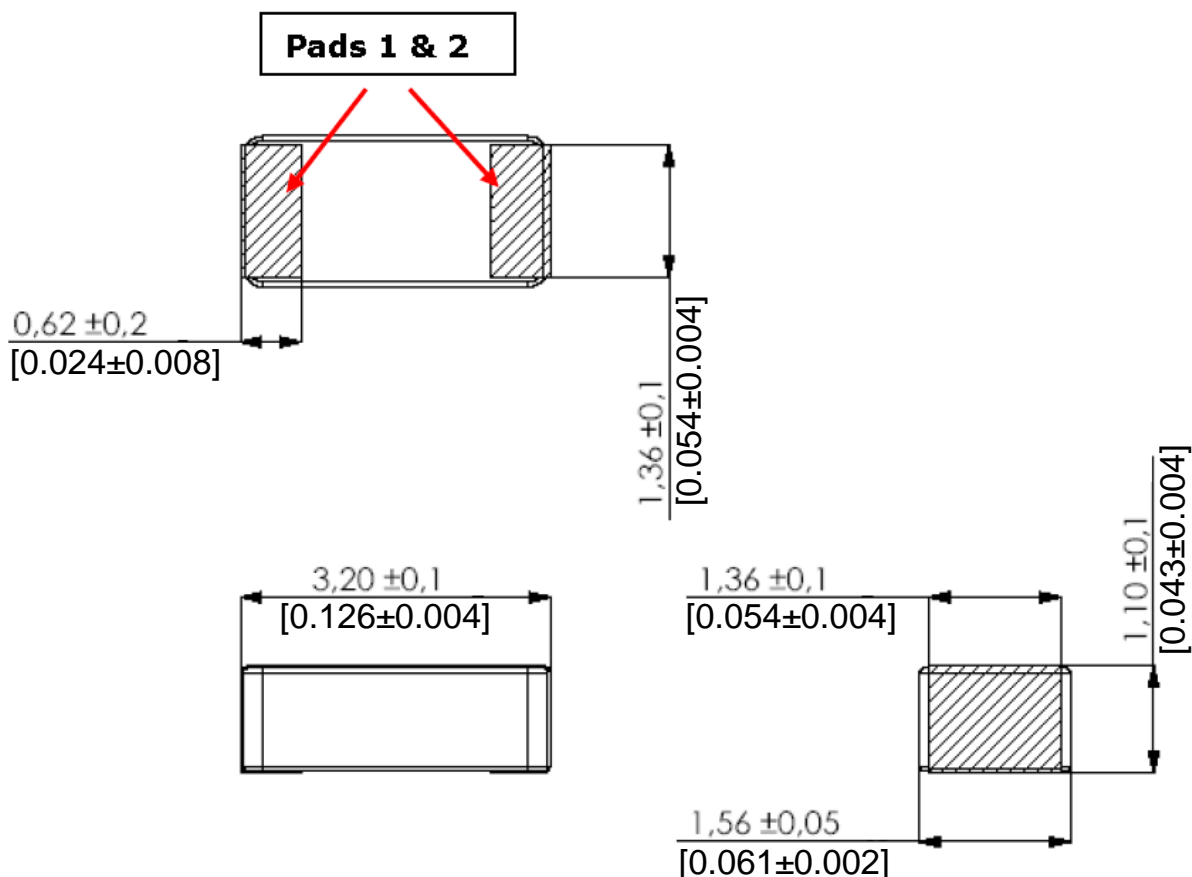
Operating Temperature	-40~85 °C
Storage Temperature	-40~85 °C
RoHS Compliant	Yes

**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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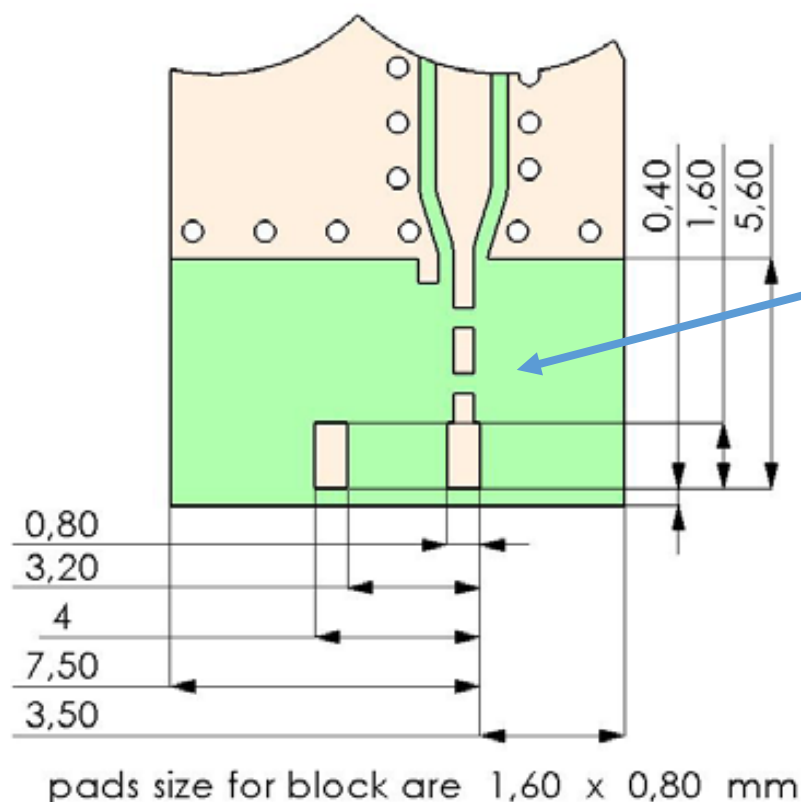
**Series : Chip Antenna**

**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.

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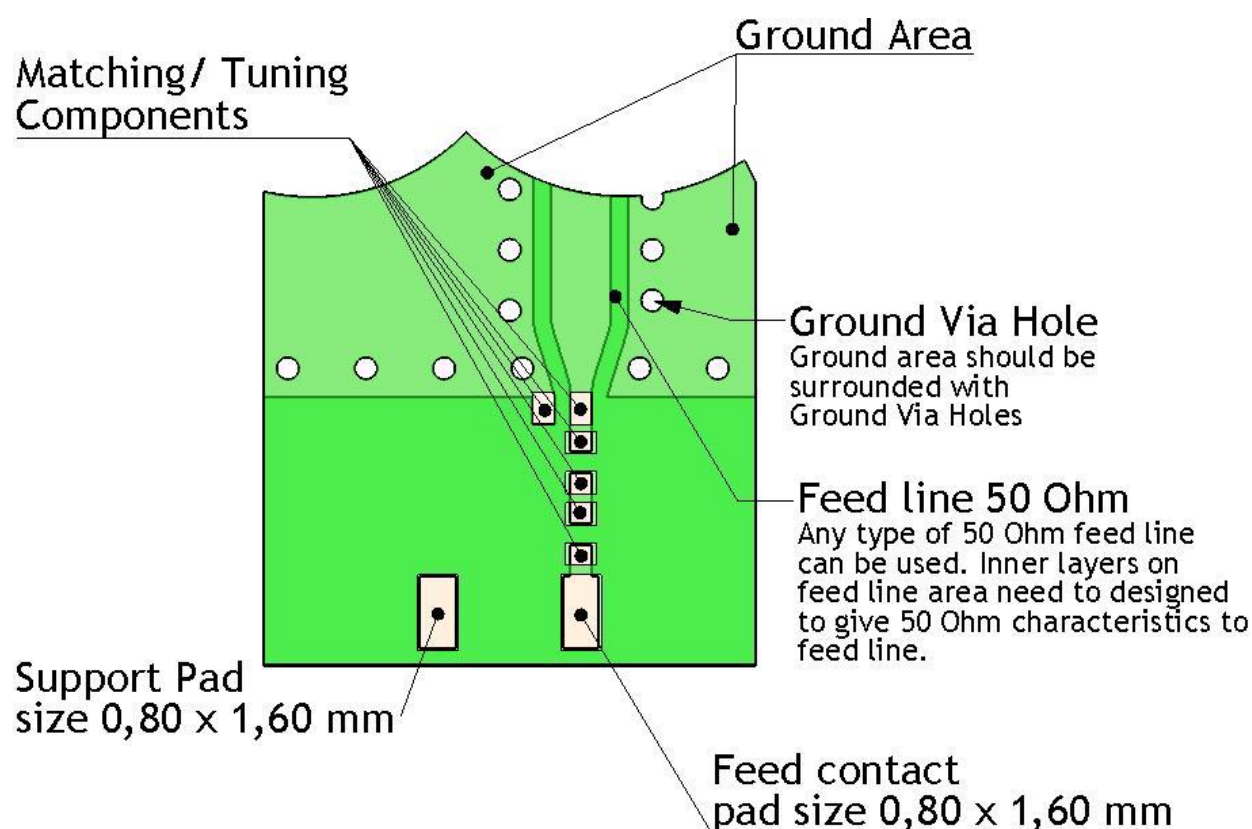
**PART NUMBER:** W3043

## 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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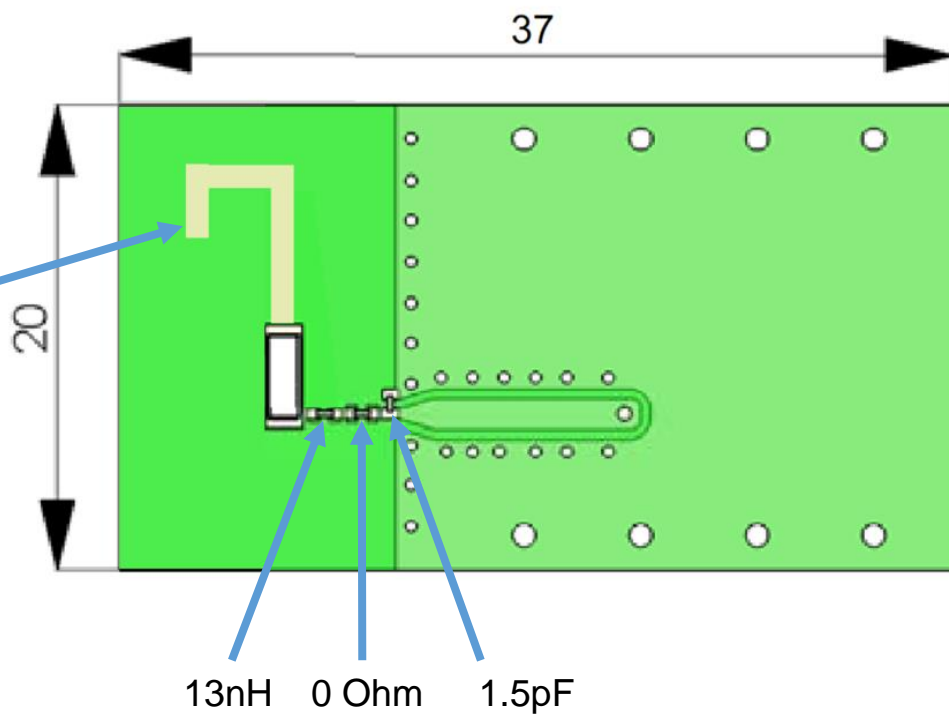
## MECHANICAL DRAWING AND TERMINAL CONFIGURATION

### 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



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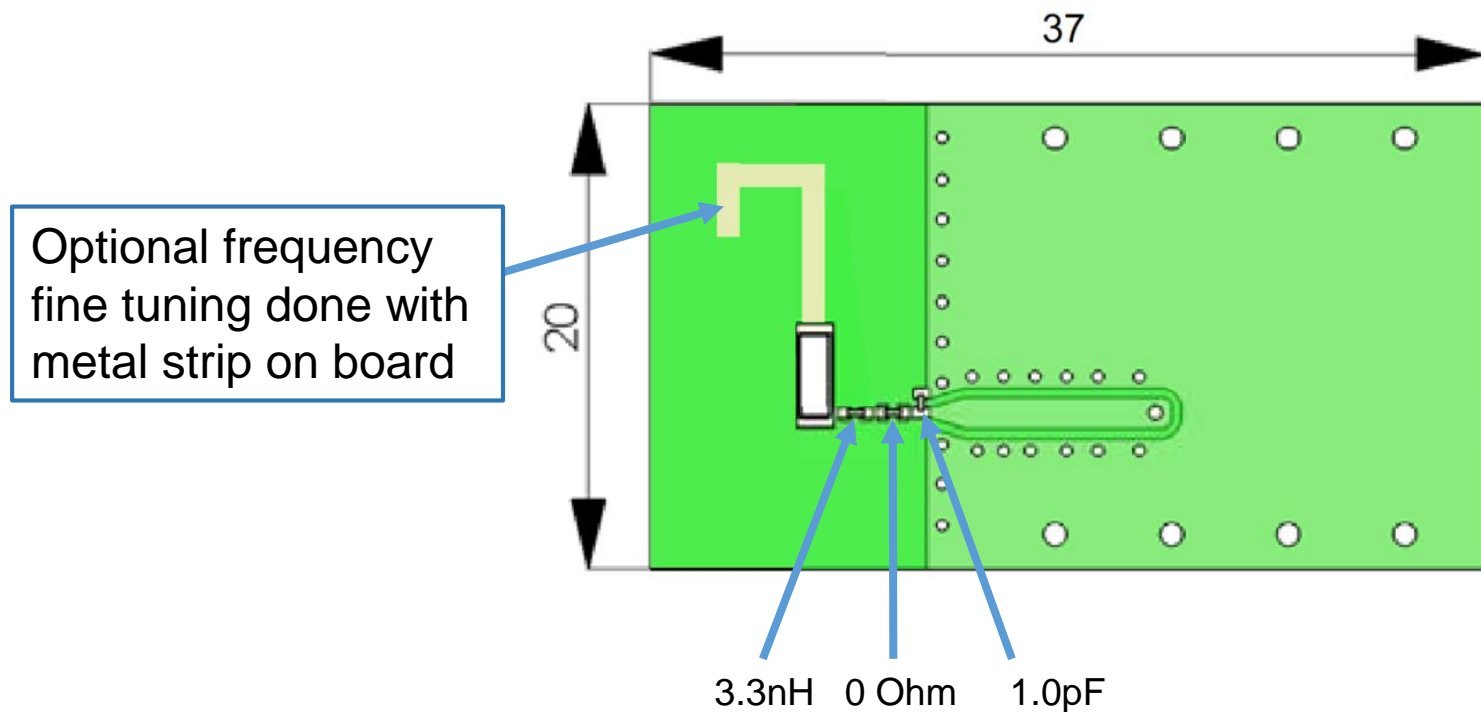
**PART NUMBER:** W3043

## 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:





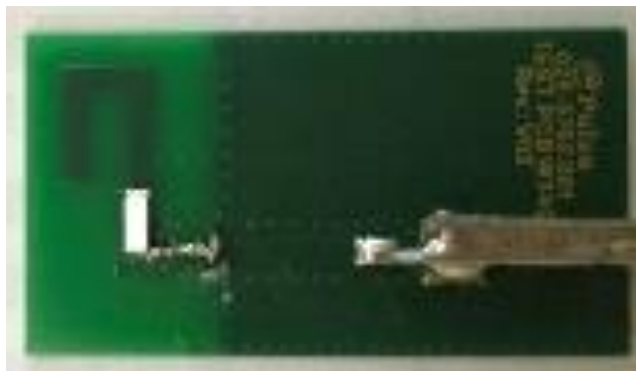
**Description:** Monopole GPS, BT, WiFi

**Series :** Chip Antenna

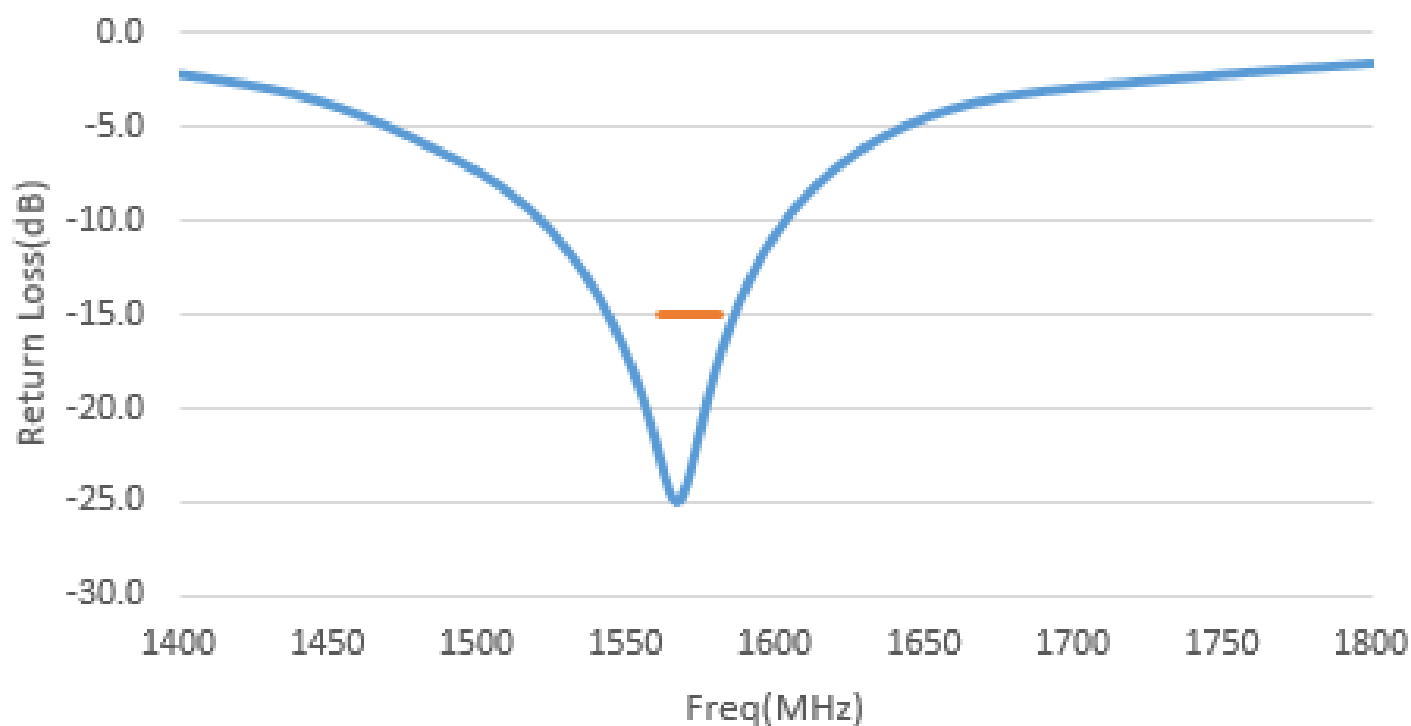
**PART NUMBER:** W3043

## CHARTS

Test set up



Return Loss @ GPS



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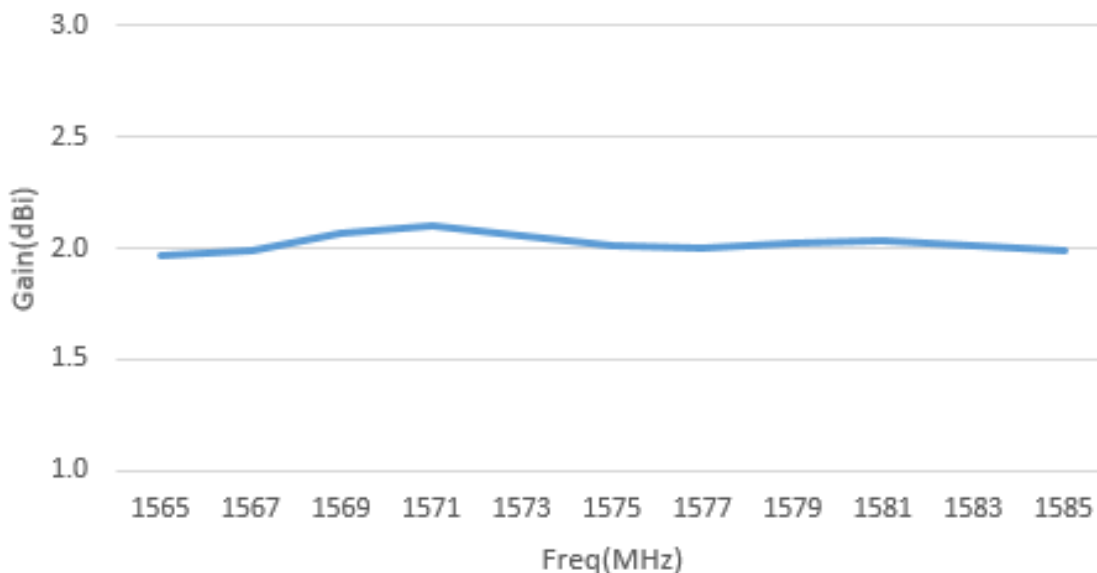
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**Series :** Chip Antenna

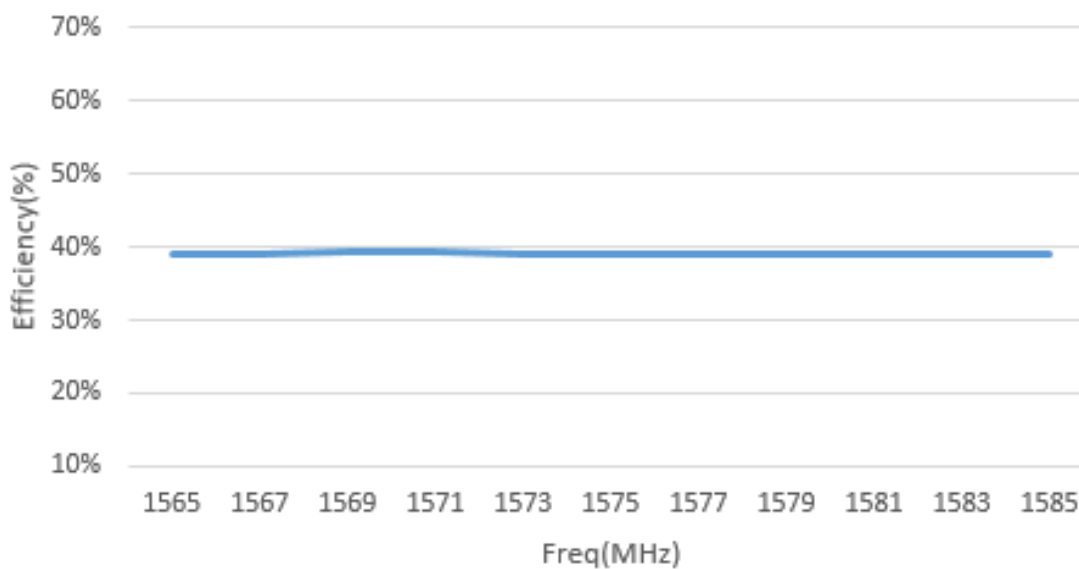
**PART NUMBER:** W3043

## CHARTS

### Peak gain @ GPS



### Efficiency @ GPS



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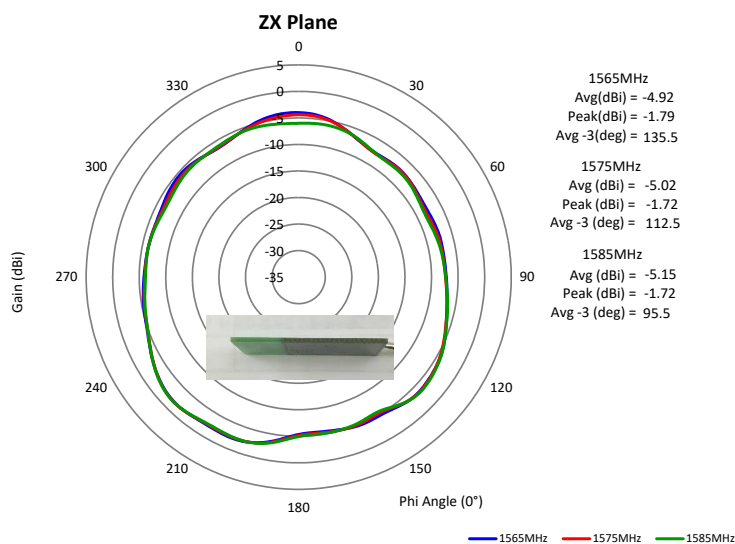
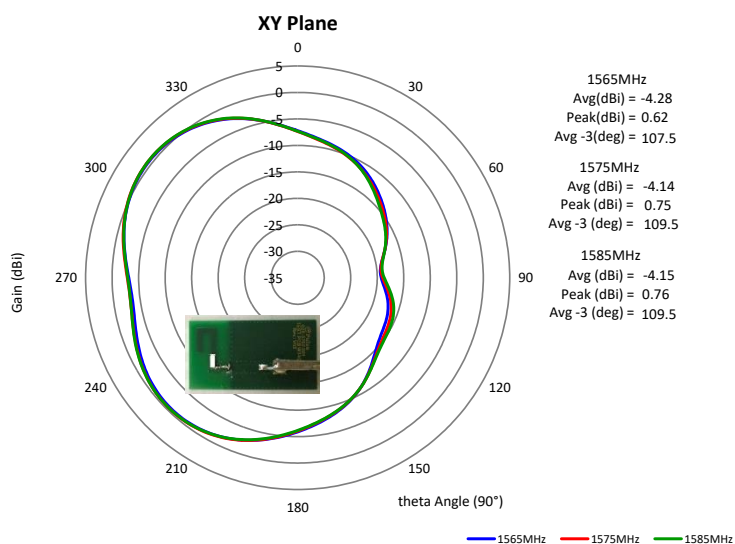
## Description: Monopole GPS, BT, WiFi

Series : Chip Antenna

PART NUMBER: W3043

### CHARTS

#### Radiation pattern @ GPS



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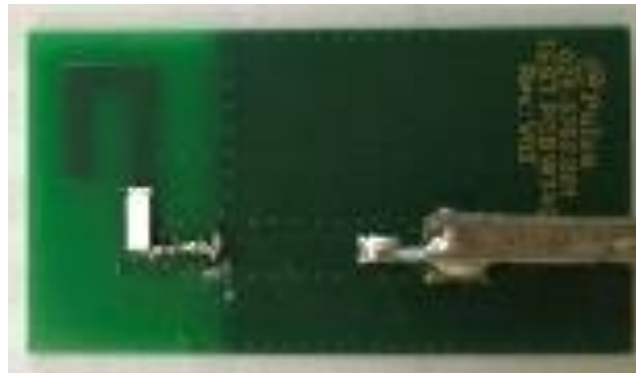
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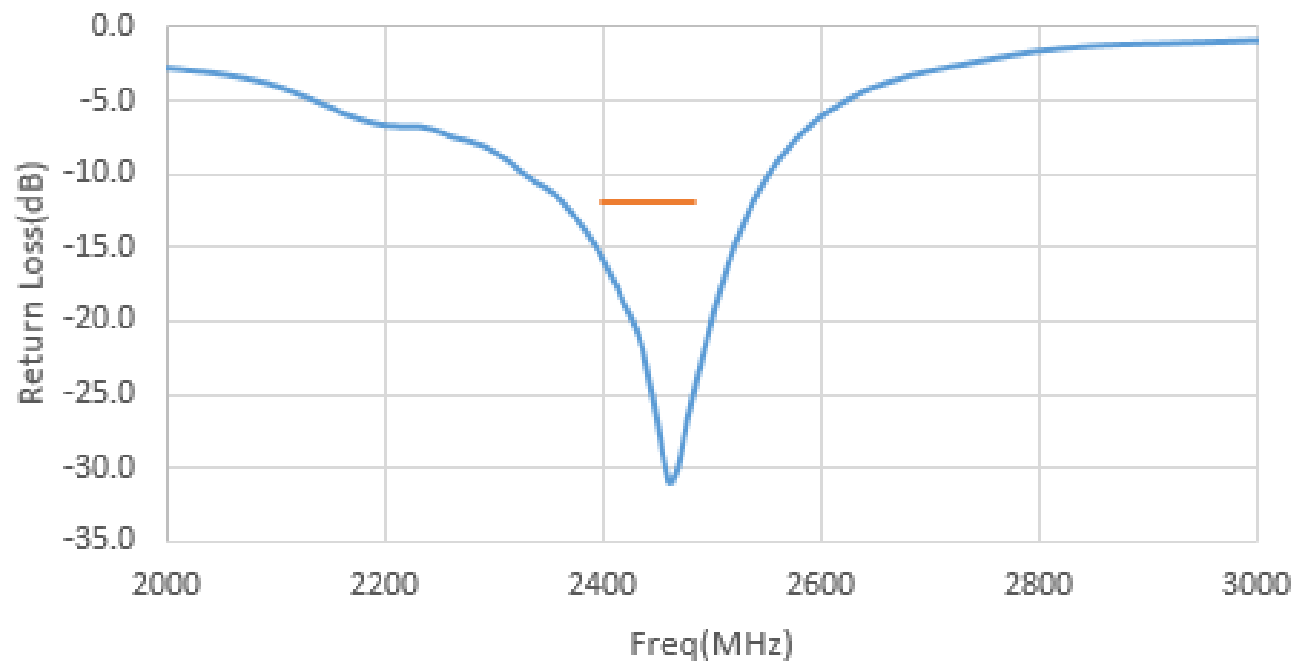
**PART NUMBER:** W3043

## CHARTS

Test set up



Return Loss @ Wifi



Issue: 1920

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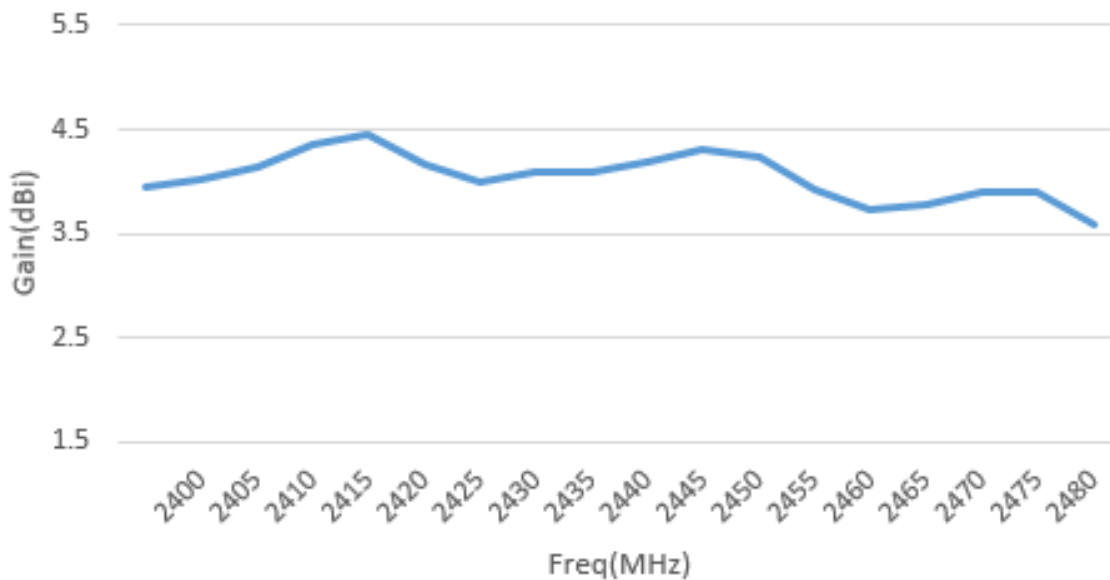
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**Series :** Chip Antenna

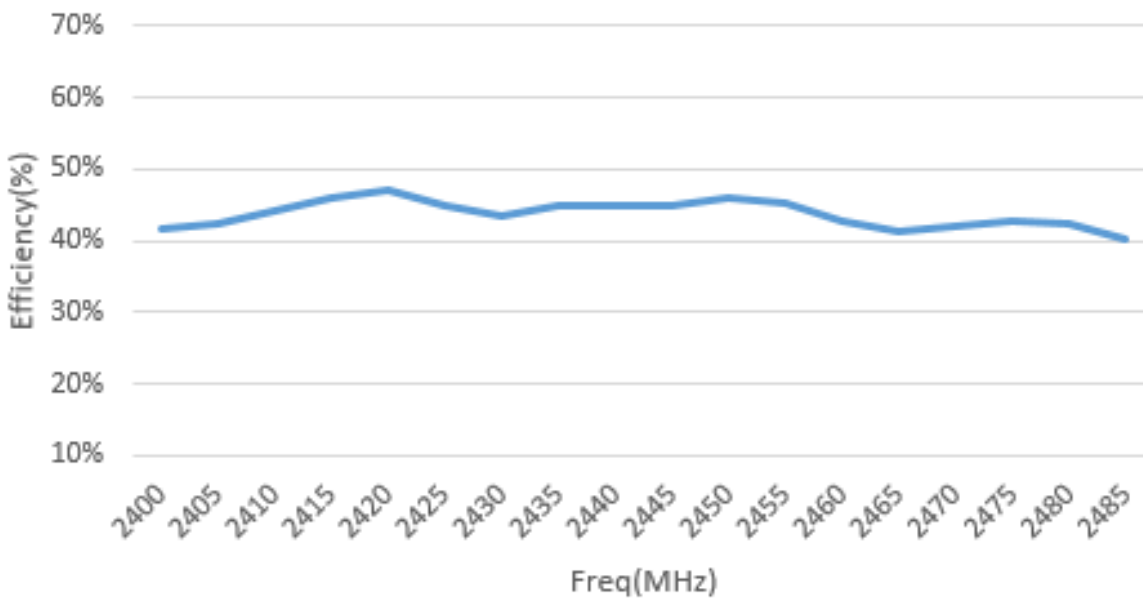
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## CHARTS

### Peak gain @ Wifi



### Efficiency @ Wifi



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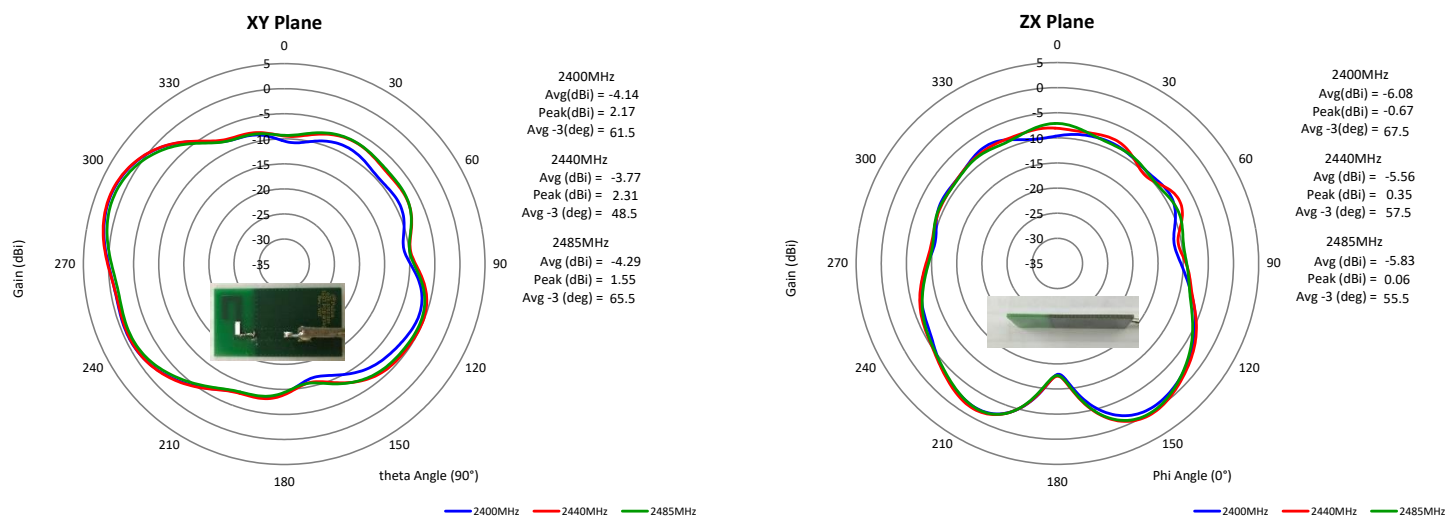
## Description: Monopole GPS, BT, WiFi

Series : Chip Antenna

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### CHARTS

#### Radiation pattern @ Wifi



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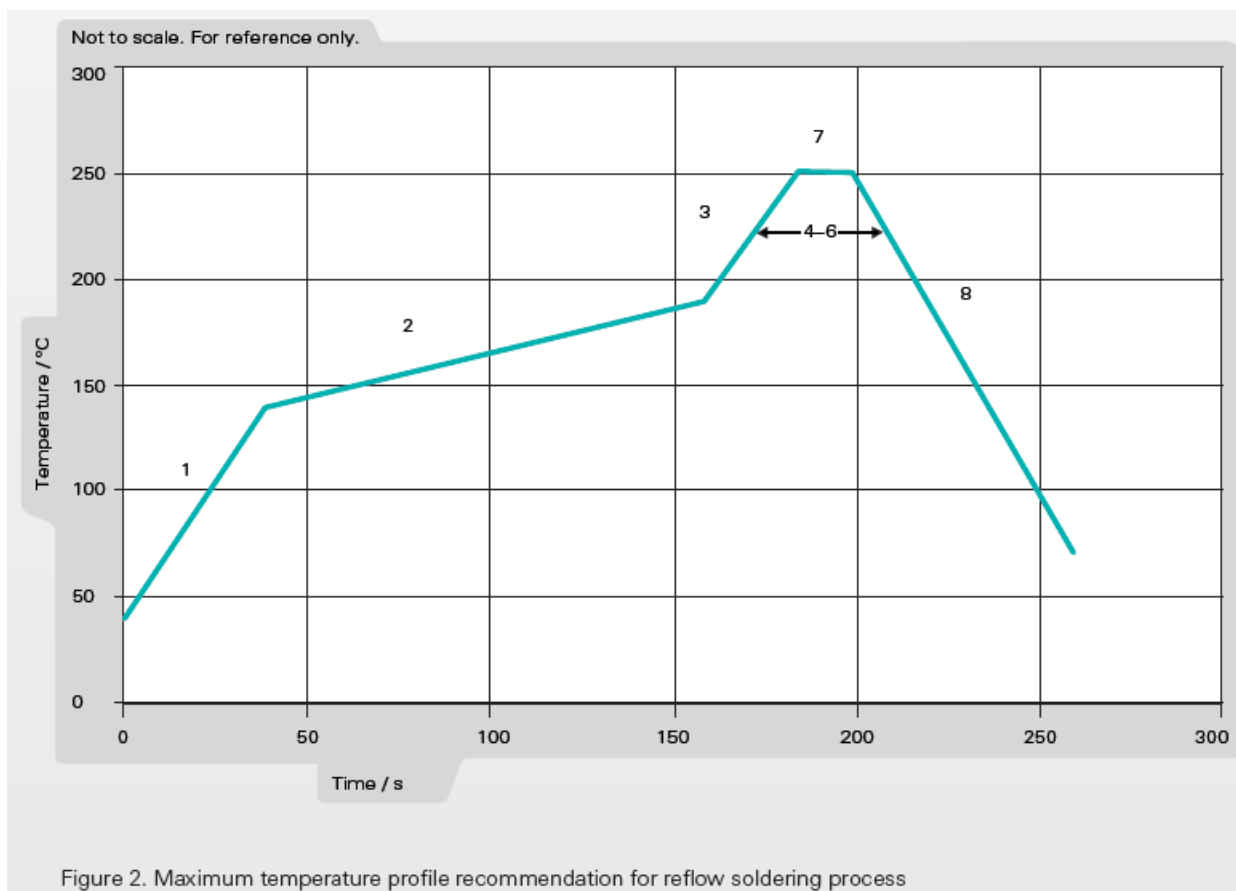
**Description:** Monopole GPS, BT, WiFi

**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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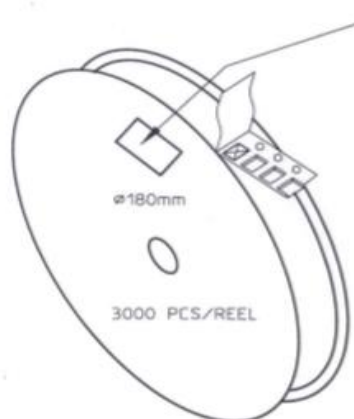
**Series :** Chip Antenna

**PART NUMBER:** W3043

## PACKAGING

Tape and reel packing is used.

3000pcs antenna/reel, 10 reels/inbox, 2 inbox(60000pcs antenna)/outbox.



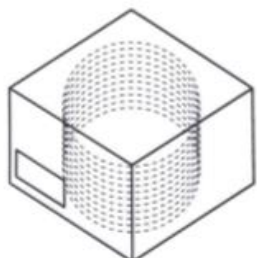
REEL LABEL INFORMATION:  
- TRACEABILITY  
- QUANTITY  
- PRODUCT CODE

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 (182x182x132) - LABEL	1 pcs 1 pcs/BOX
REEL H85-00127 (D180, W12) - REEL LABEL	10 pcs 1 pcs/REEL



LEVEL

NOT MOISTURE SENSITIVE

1

These Devices do not require special storage conditions provided:

1. They are maintained at conditions equal to or less than 30°C and 85% RH.
2. They are solder reflowed at a peak body temperature which does not exceed 260°C.

Note: Level and body temperature defined by IPC/JEDEC J-STD-020

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- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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## JONHON

«JONHON» (основан в 1970 г.)

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«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

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