Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

Features

- Multipurpose for various frequencies
- Omni directional radiation
- Low profile
- Compact size W x L x H (7 x 1.6 x 1.6 mm)
- Low weight (86 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS compliant product

Applications

- Bluetooth, WLAN, WiFi
- IEEE 802.11b/g
- ZigBee IEEE 802.15.4
- 2.4 GHz WLAN
- 2.4 GHz ISM Band System
- 868 MHz ISM Band Systems
- GPS 1.575 GHz

Electrical specifications @ +25 °C

Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and ground clearance area size. Matching and tuning circuit component values are case depended.

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Monopole 1.575 GHz

Typical performance

Board	Frequency Range [MHz]	Avg Gain [dBi]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Imped-ance [Ω]	Operating Temperature [° C]
Case #1 11x40mm	1565 – 1585	-3.5 (Peak) -3.9 (Band edges	0.1 (Peak) -0.2 (Band edges)	50/-3 (Peak) 45/-3.5 (Band edges)	-12	50	-40 to +85
Case #2 20x30mm		-3.9 (Peak) -4.1 (Band edges)	0.3 (Peak) 0 (Band edges)	50/-3 (Peak) 45/-3.5 (Band edges)	-15		
Case #3 37x80mm		-2.7 (Peak) -2.9 (Band edges)	2.0 (Peak) 1.7 (Band edges)	70/-1.55 (Peak) 65/-1.9 (Band edges)	-18		

Monopole 2.4 GHz

Typical performance

Board	Frequency Range [MHz]	Avg Gain [dBi]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Imped-ance [Ω]	Operating Temperature [° C]
Case #1 11x40mm	2400 – 2483.5	-4.1 (Peak) -3.7 (Band edges)	1.4 (Peak) 1.9 (Band edges)	65/-0.3 (Peak) 55/-0.6 (Band edges)	-18	50	-40 to +85
Case #2 20x30mm		-4.0 (Peak) -4.3 (Band edges)	2.2 (Peak) 1.5 (Band edges)	52/-2.9 (Peak) 46/-3.4 (Band edges)	-12		

ISM 868 MHz

Typical performance

Board	Frequency Range [MHz]	Avg Gain [dBi]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Imped-ance [Ω]	Operating Temperature [° C]
Case #1 20x40mm Vertical	858 – 878	-6.5 (Peak) -7 (Band edges)	-1.8 (Peak) -2.5 (Band edges)	29/-5.4 (Peak) 25/-6 (Band edges)	-10	50	-40 to +85
Case #2 20x40mm Horizontal		-6.5 (Peak) -6.8 (Band edges)	-1.4 (Peak) -2 (Band edges)	30/-5.3 (Peak) 28/-5.55 (Band edges)			

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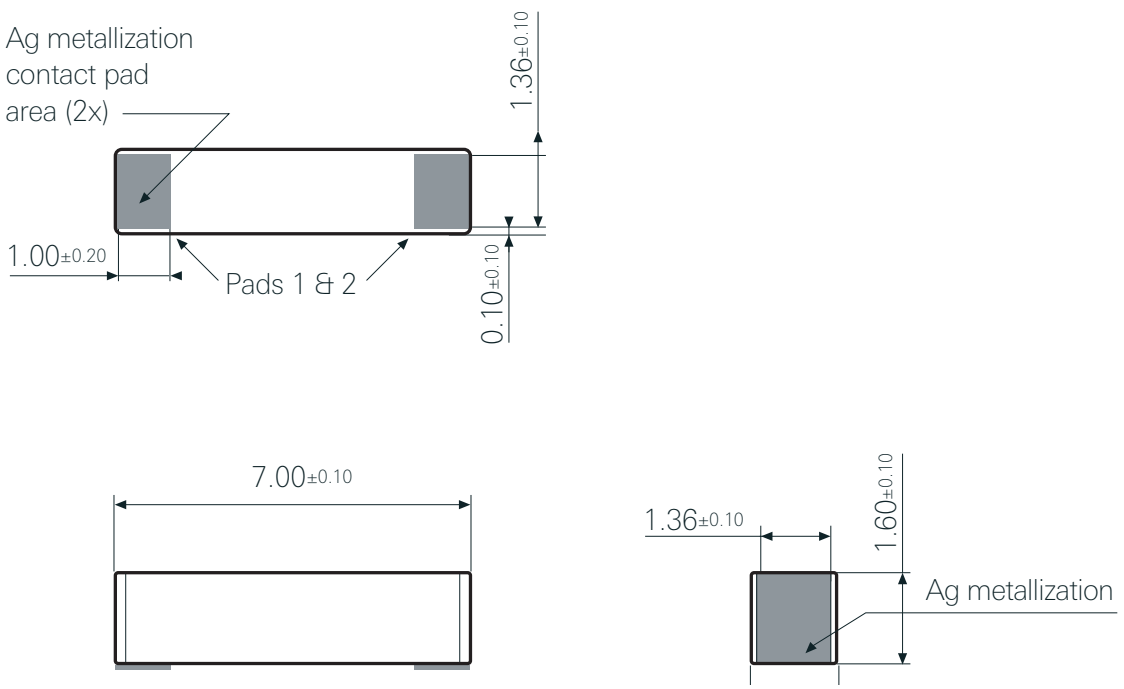
Terminal Configuration and Dimensions



Antenna features

No.	Terminal name	Terminal Dimensions
1	Feed / GND	1.00 x 1.36 mm
2	Feed / GND	1.00 x 1.36 mm

Antenna is symmetrical.
Either of terminals 1 or 2 can be feed / GND

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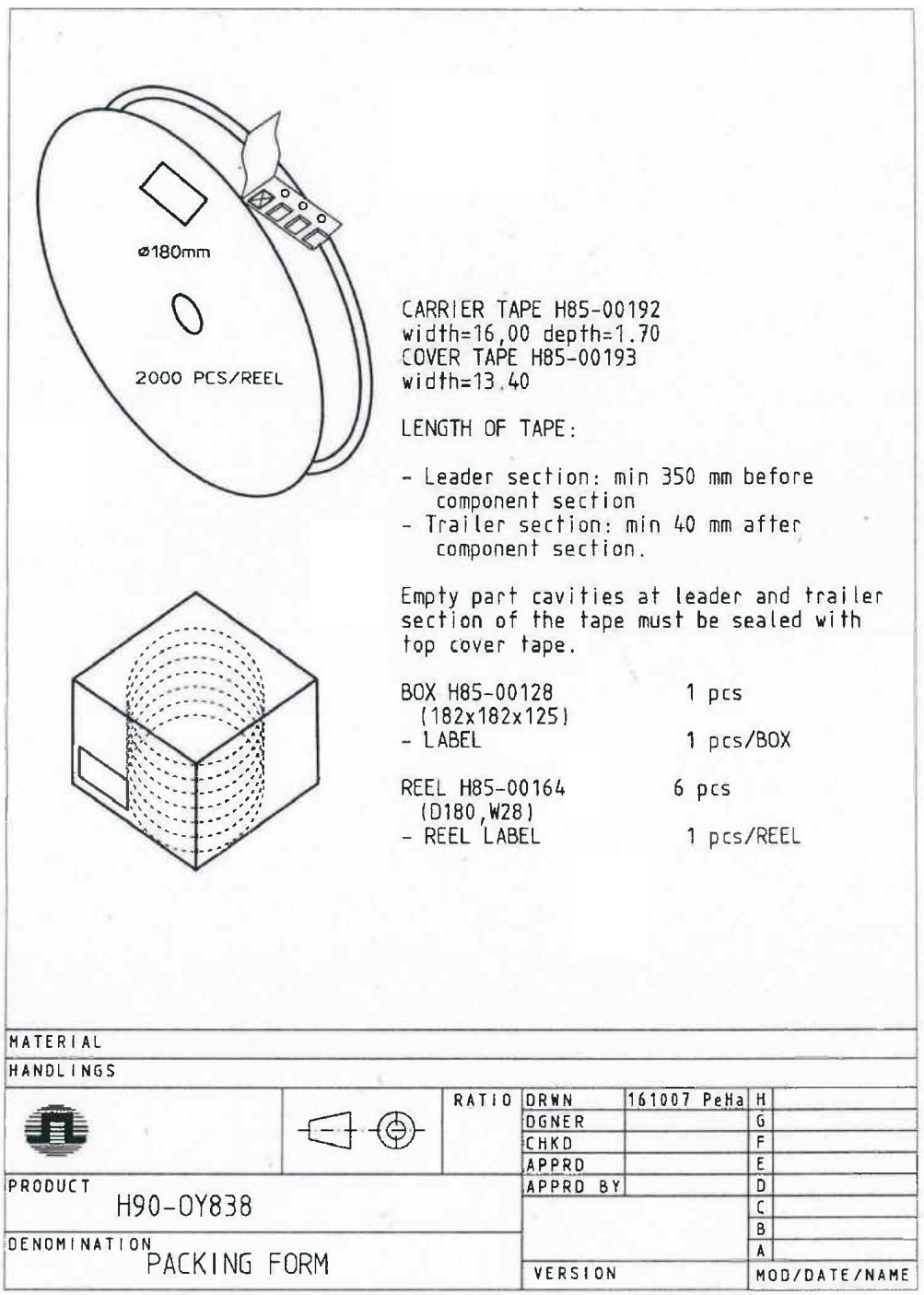
Packing Form



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Ground cleared under antenna. Pulse Part Number: W3000

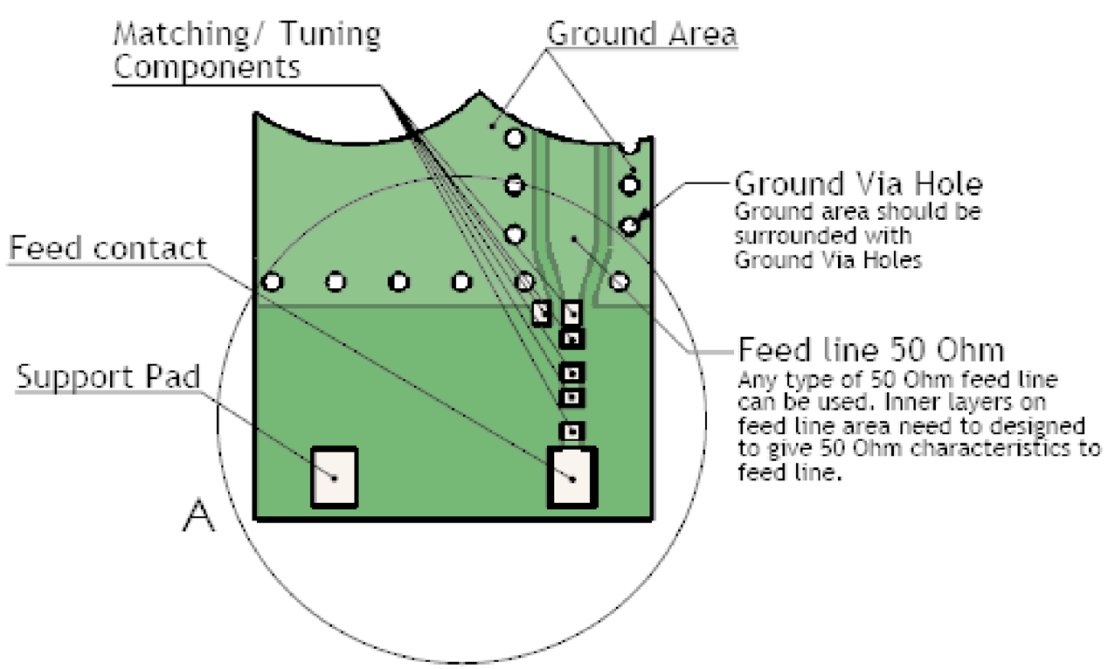
Antenna PWB Layout Specifications

Ground cleared under antenna, clearance area 11.00 x 6.00 mm

Matching and tuning component values depend on application and surrounding mechanics / materials.
Feed line should be designed to match 50 Ω characteristic impedance, depending on PWB material and thickness.
Recommended test board layout for electrical characteristic measurement, test board outline size 11 x 40 mm.
Recommended PWB manufacturing tolerances according to standard: IPC-A-600, revision G

PWB layout for W3000 Monopole Antenna

Note: All dimensions are in metric system.



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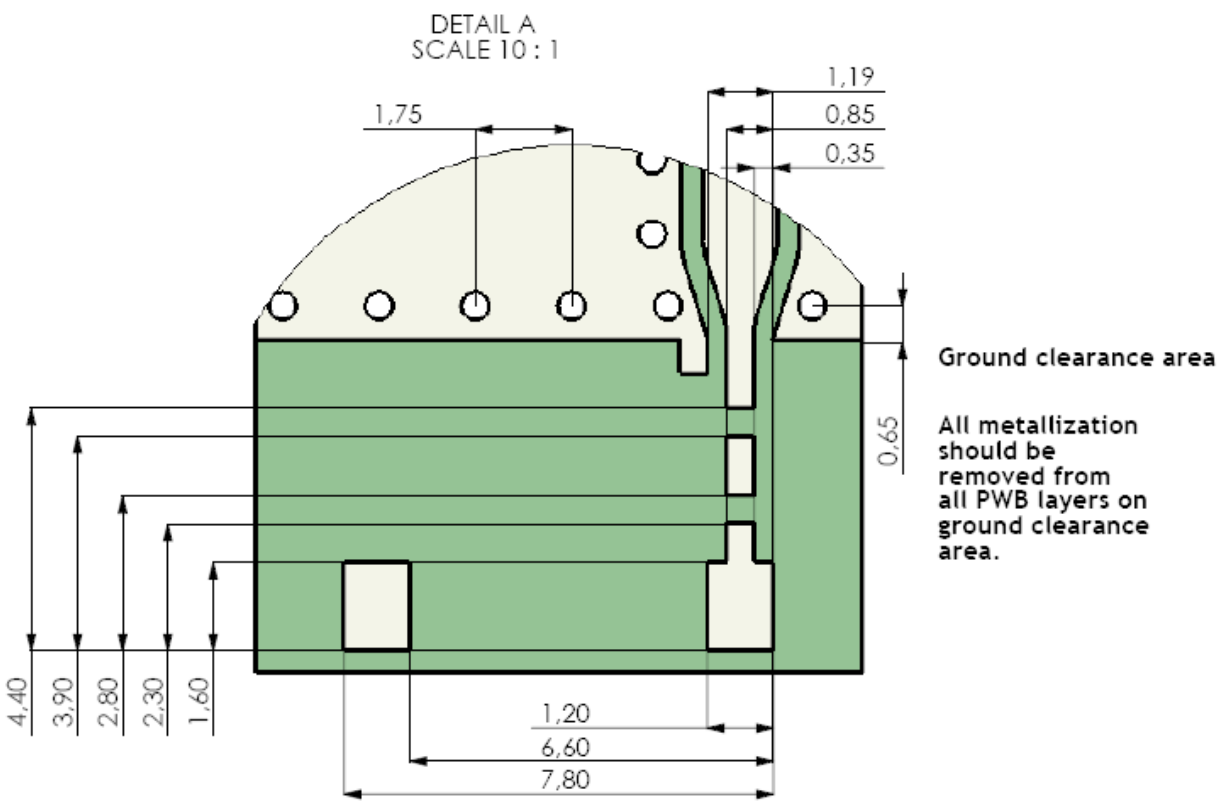
PWB Pad Dimensions



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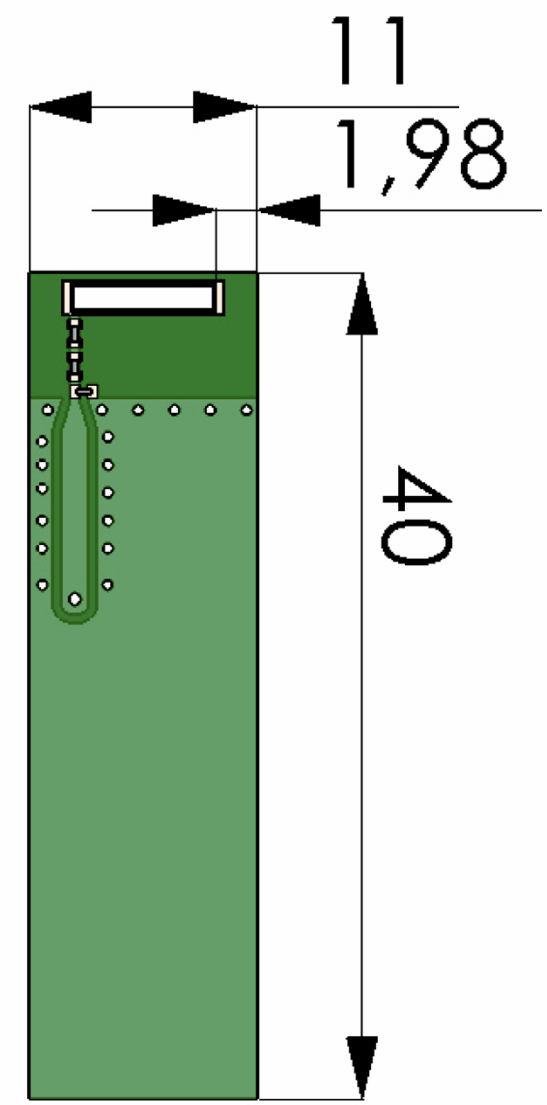
GPS Antenna Case #1

Board Size 40 x 11 mm

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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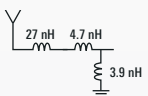
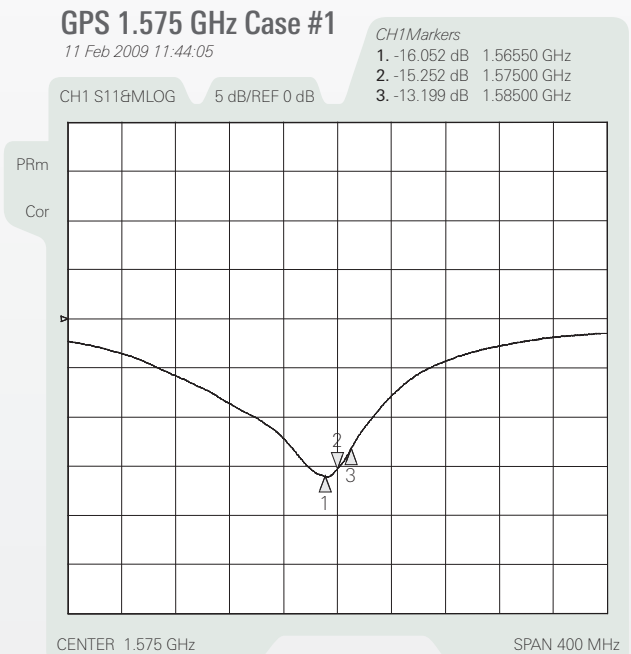
GPS Antenna Case #1, Test Set Up and Measurement Performance

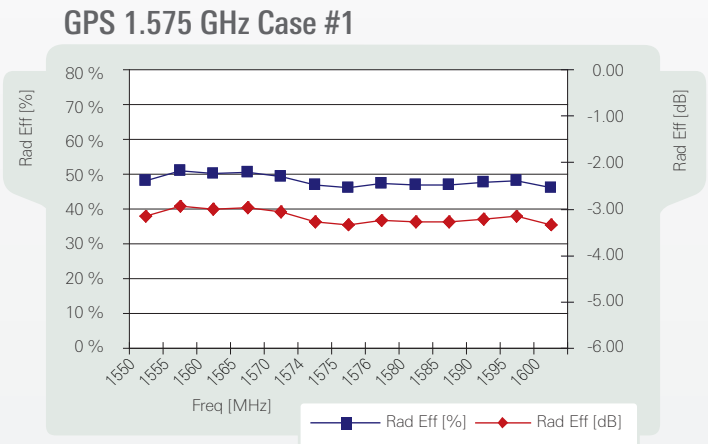
Ground cleared under antenna, clearance area 11.00 x 6.00 mm.

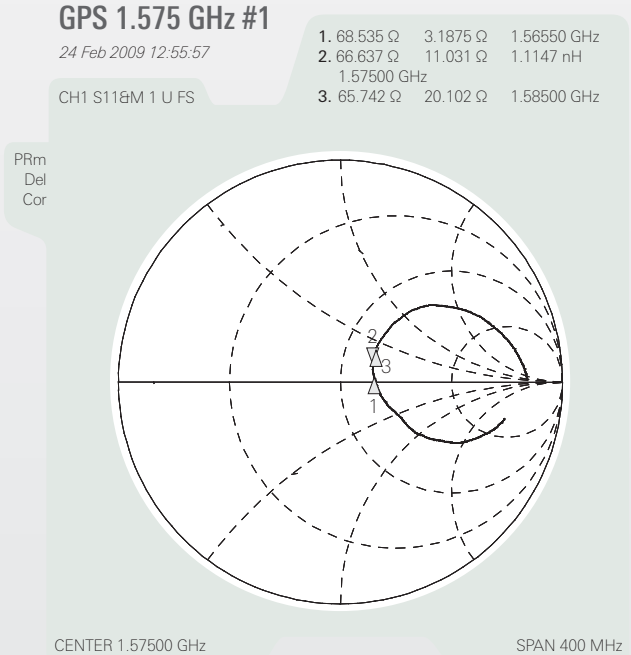
Typical Electrical Characteristics (T=25 °C)

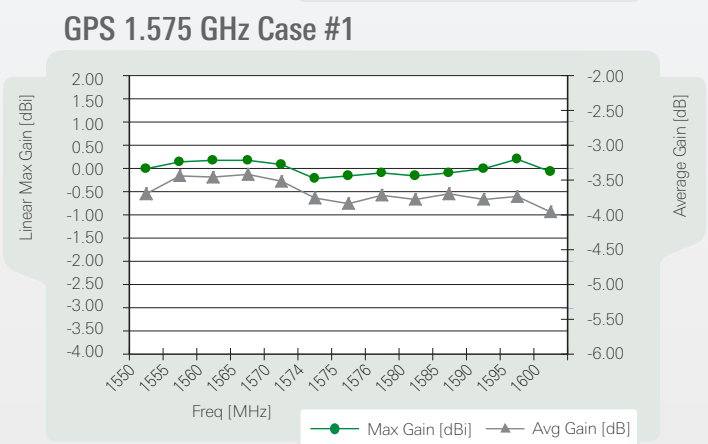
Measured on the 11 x 40 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain.

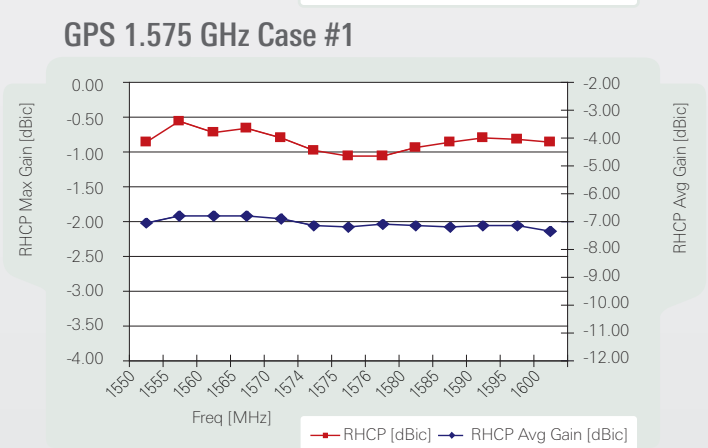












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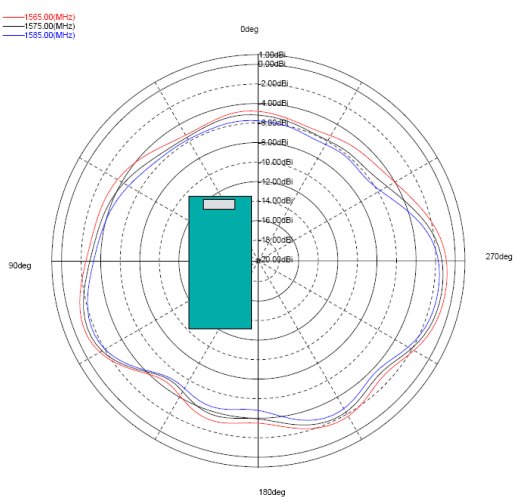
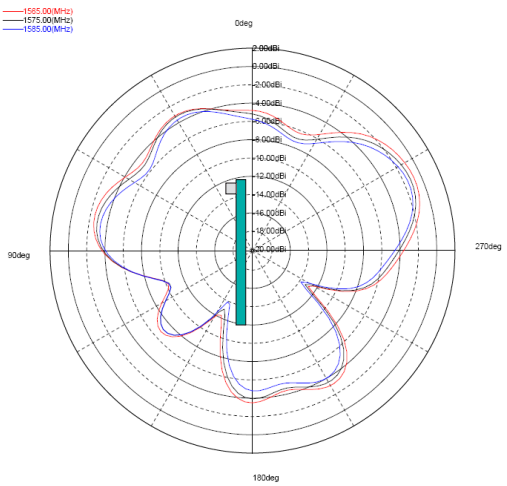
GPS Antenna Case #1

Typical Free Space Radiation Patterns

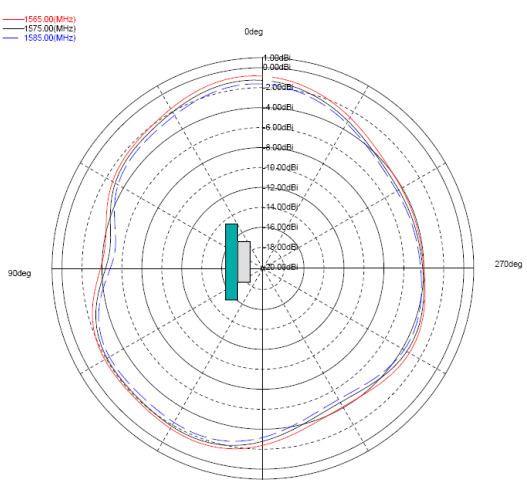
XZ-PLANE

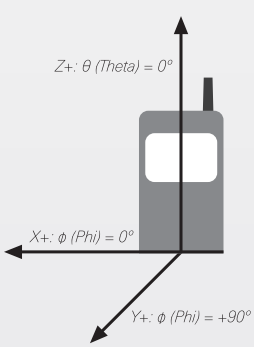


ZY-PLANE



XY-PLANE





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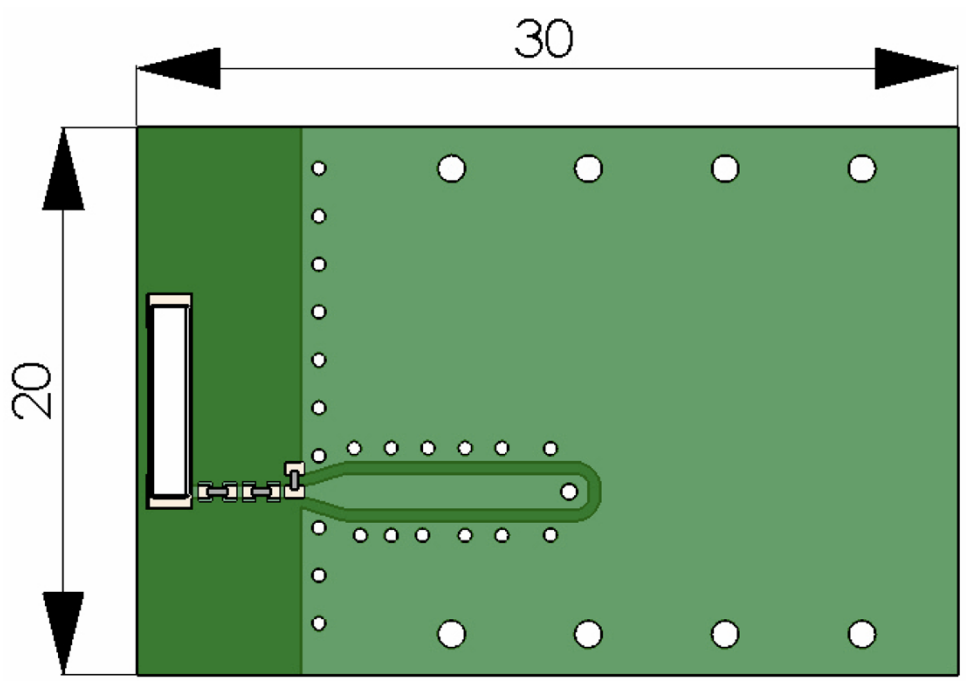
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

GPS Antenna Case #2

Board Size 20x30

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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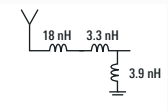
GPS Antenna Case #2, Test Set Up and Measurement Performance

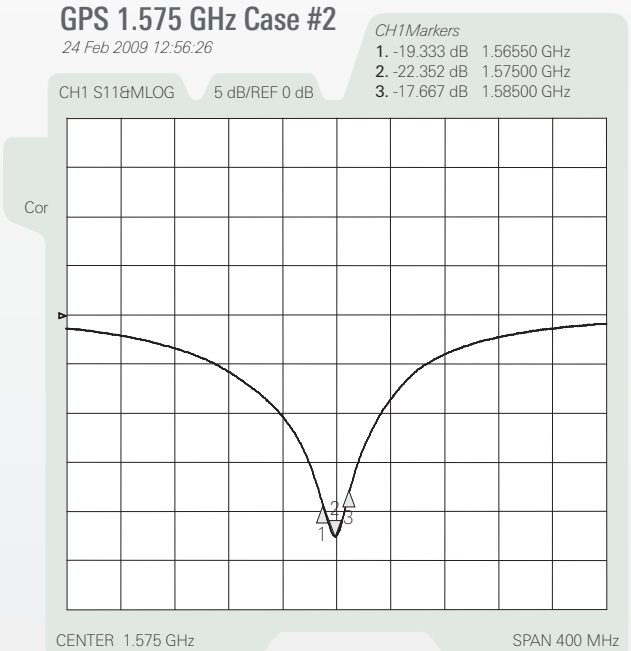
Ground cleared under antenna, clearance area 20.00 x 6.00 mm.



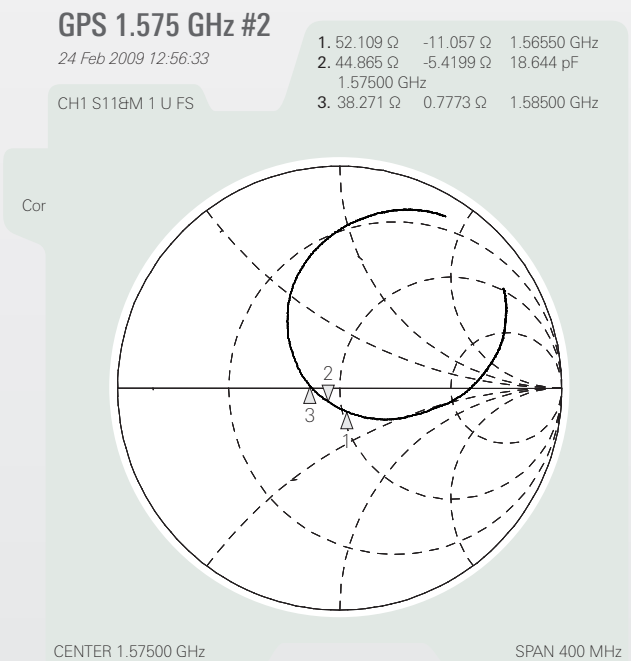
Typical Electrical Characteristics (T=25 °C)

Measured on the 30 x 20 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain.

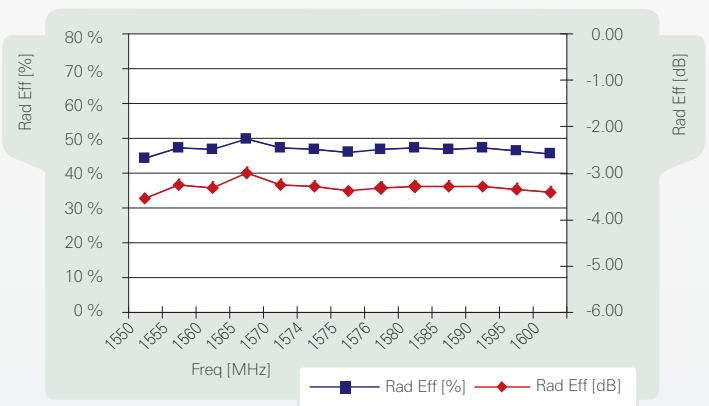
GPS 1.575 GHz Case #2



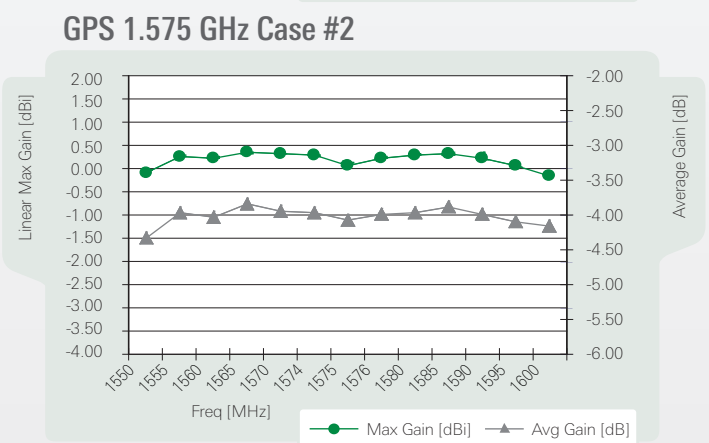
GPS 1.575 GHz #2



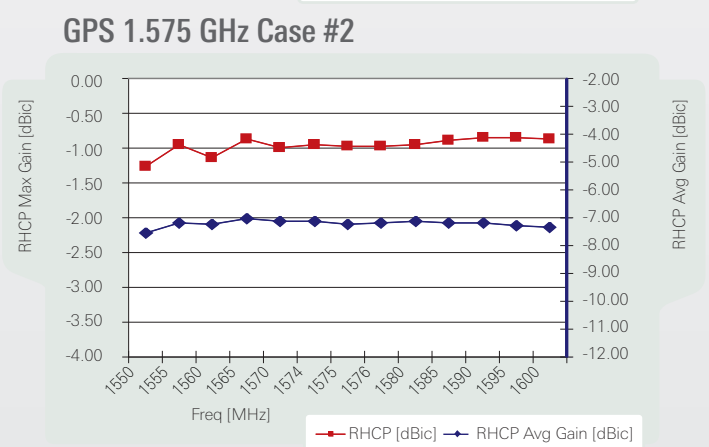
GPS 1.575 GHz Case #2



GPS 1.575 GHz Case #2



GPS 1.575 GHz Case #2



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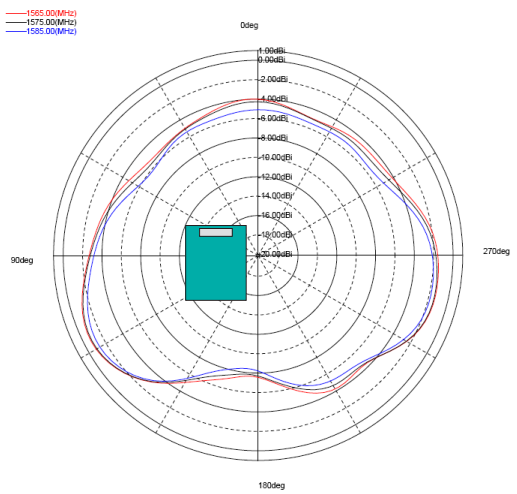
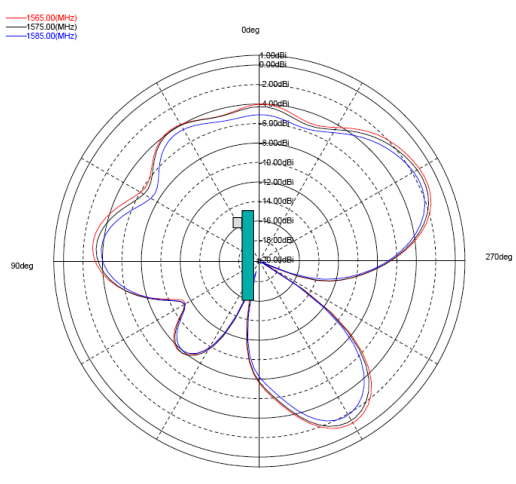
GPS Antenna Case #2

Typical Free Space Radiation Patterns

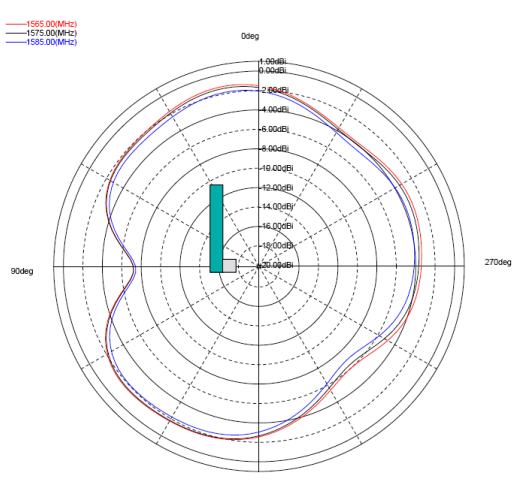
XZ-PLANE

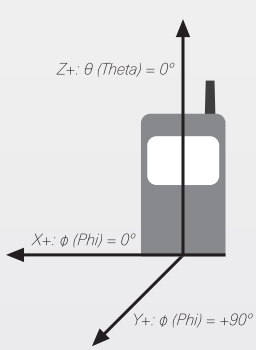


ZY-PLANE



XY-PLANE





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Ceramic Monopole Antenna

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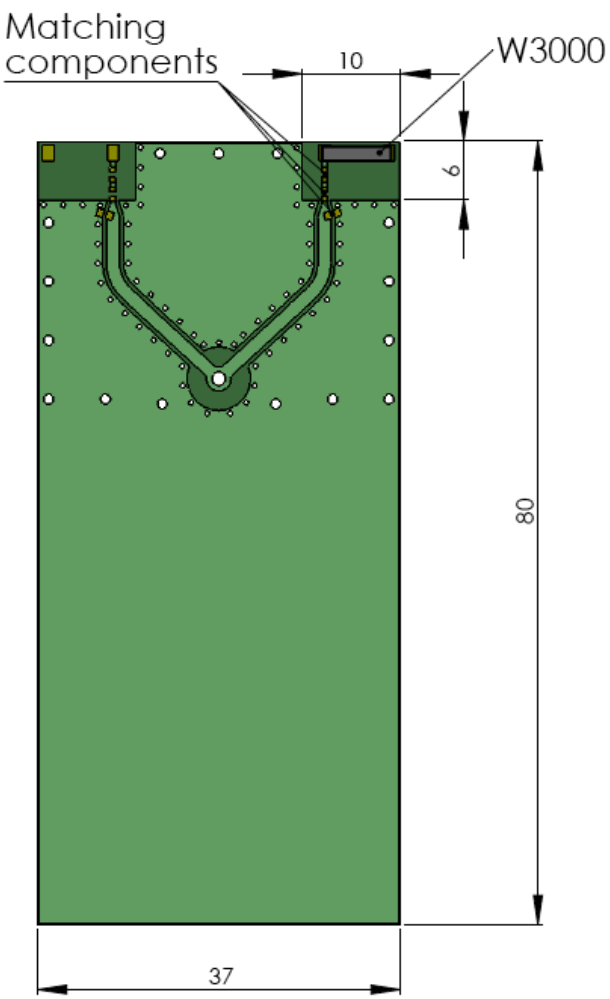
GPS Antenna Case #3

Board Size 37 x 80 mm

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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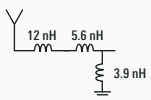
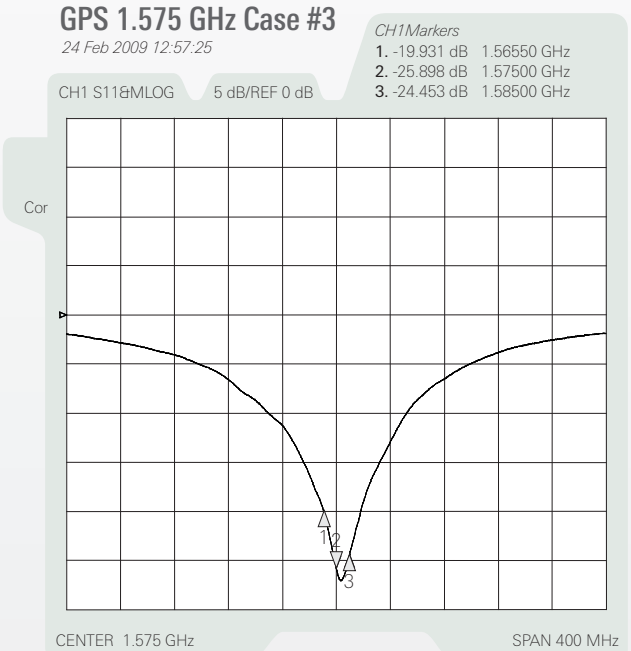
GPS Antenna Case #3, Test Set Up and Measurement Performance

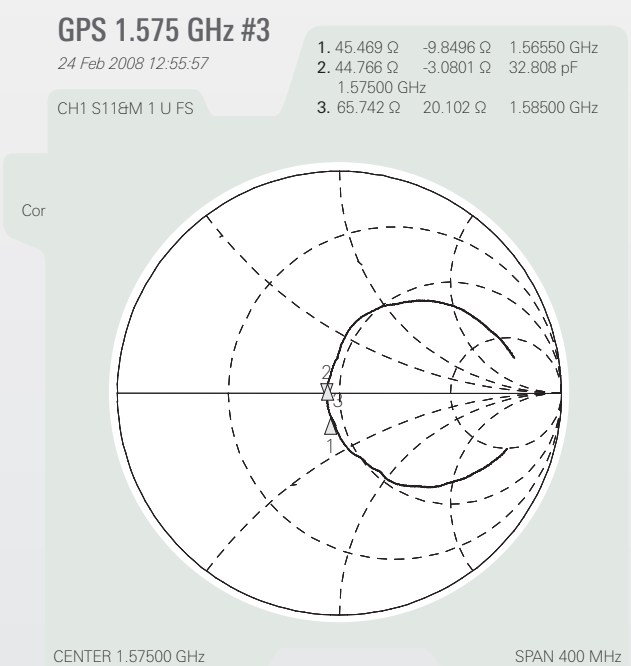
Ground cleared under antenna, clearance area 20.00 x 6.00 mm.

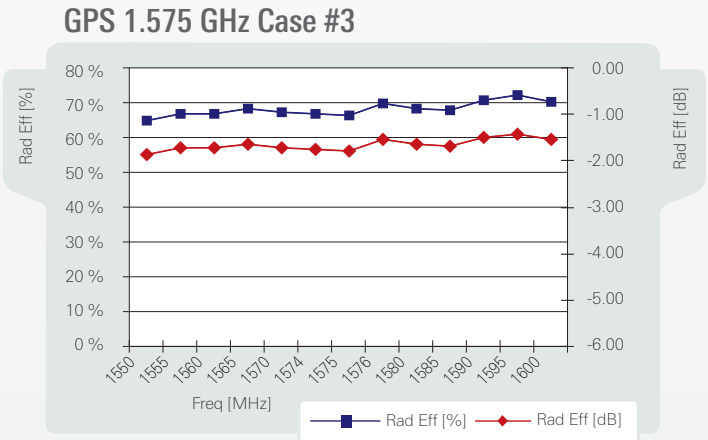


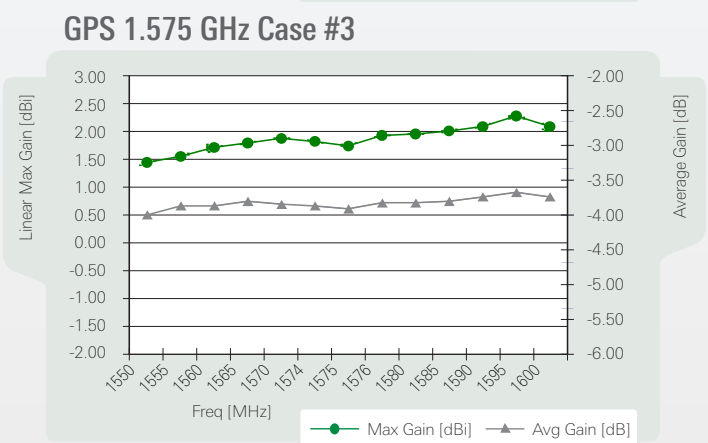
Typical Electrical Characteristics (T=25 °C)

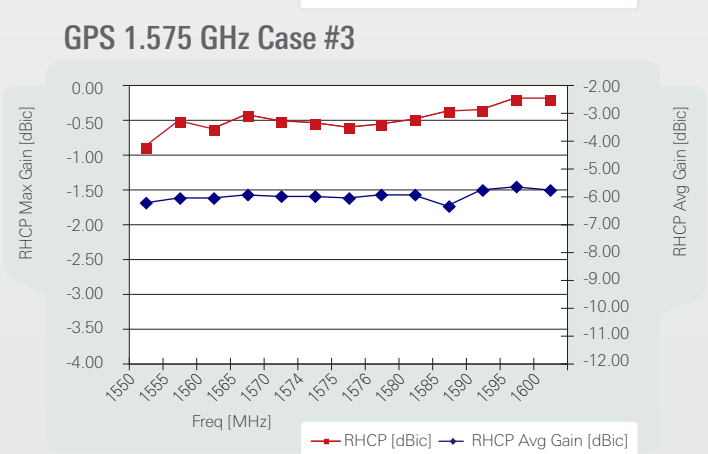
Measured on the 30 x 20 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain.











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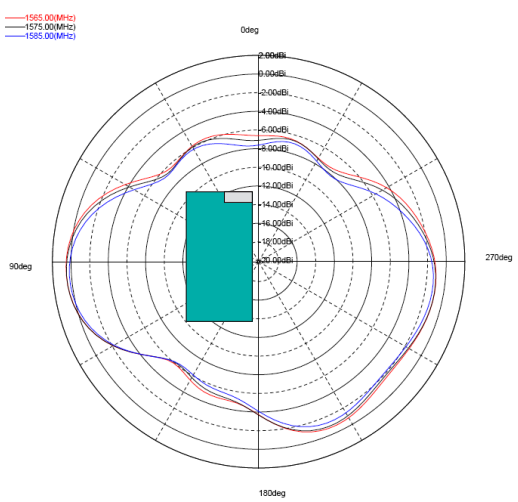
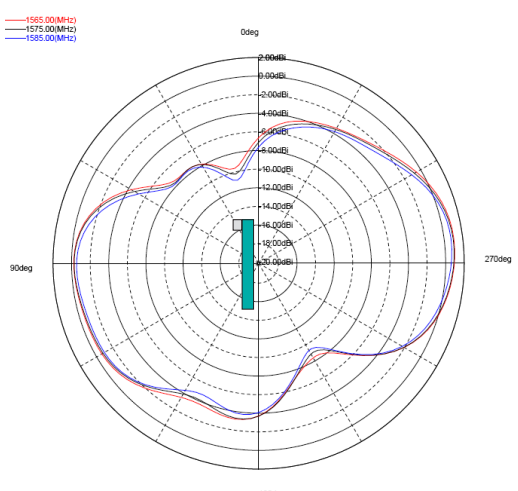
GPS Antenna Case #3

Typical Free Space Radiation Patterns

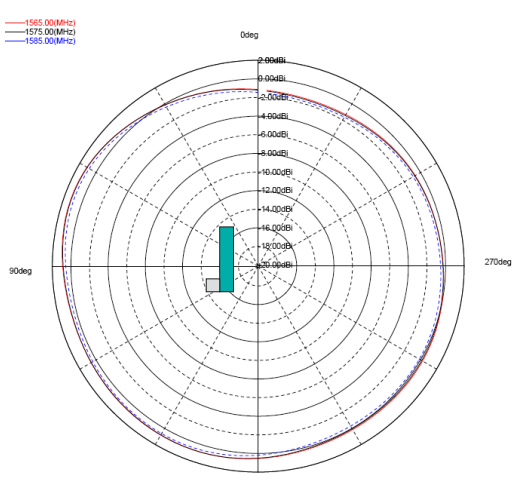
XZ-PLANE

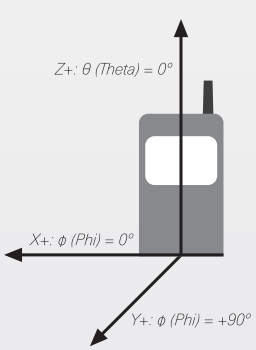


ZY-PLANE



XY-PLANE





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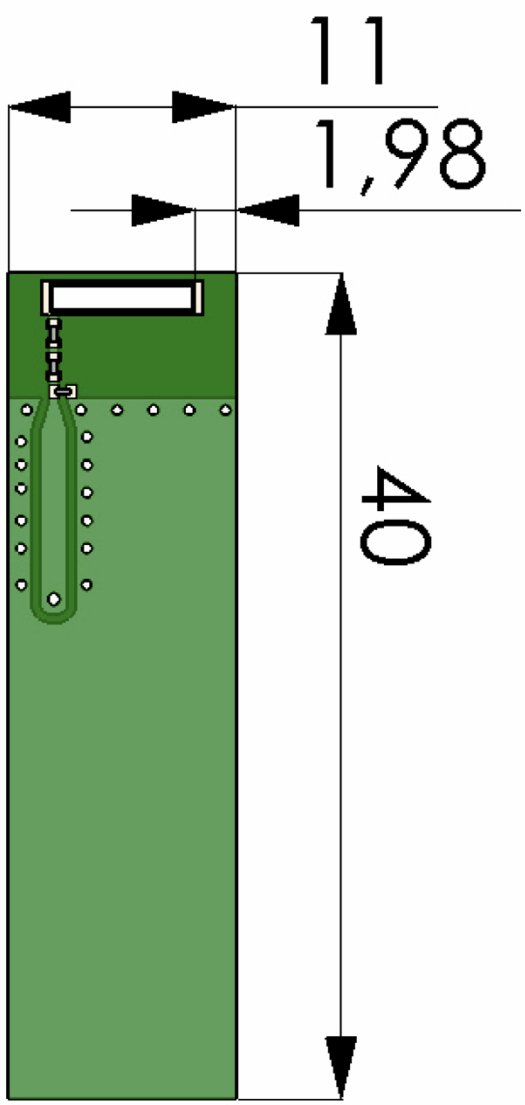
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

WiFi Antenna Case #1

Board Size 40 x 11 mm

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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Ceramic Monopole Antenna

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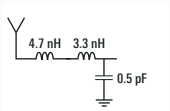
WiFi Antenna Case #1, Test Set Up and Measurement Performance

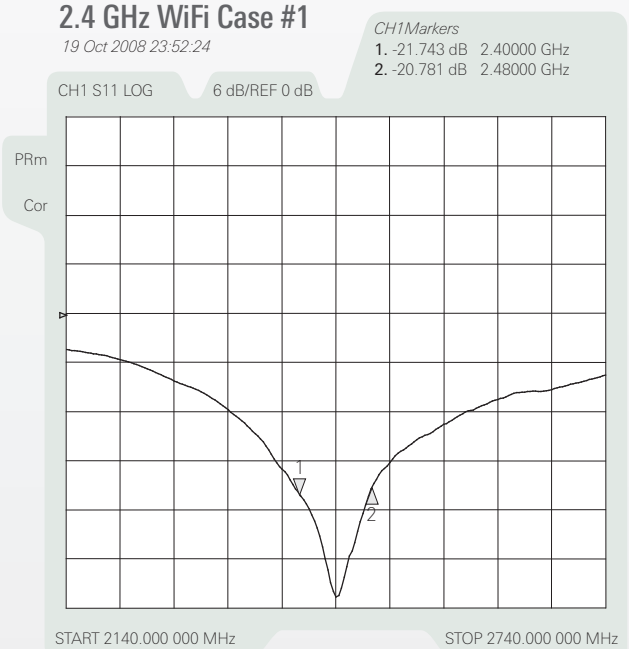
Ground cleared under antenna, clearance area 11.00 x 6.00 mm.



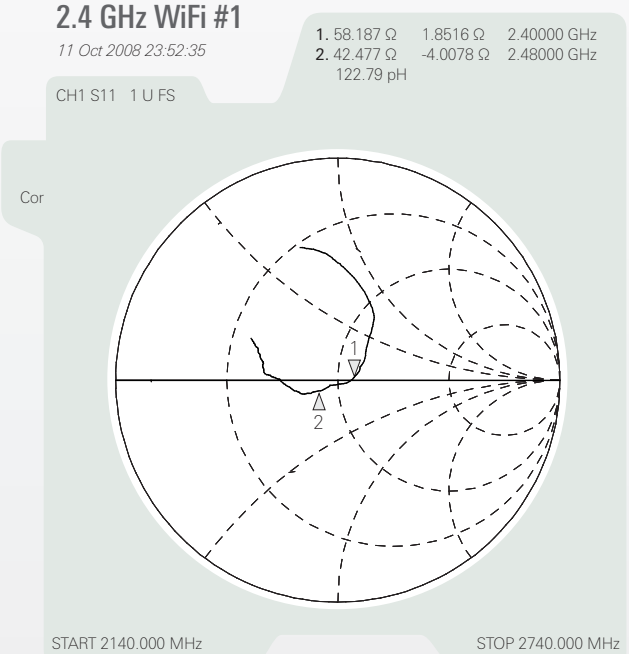
Typical Electrical Characteristics (T=25 °C)

Measured on the 11 x 40 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain.

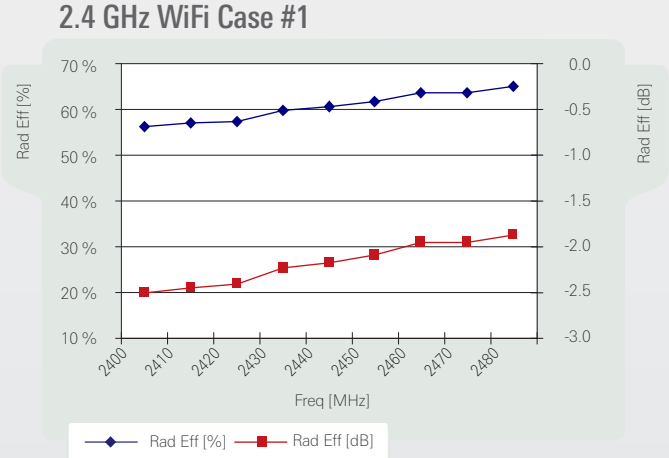
2.4 GHz WiFi Case #1



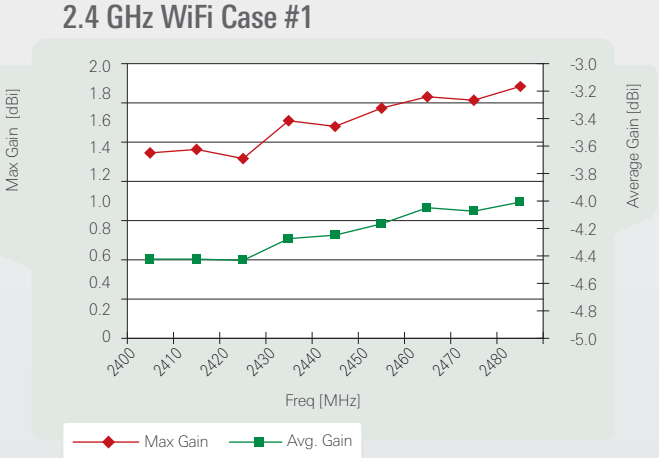
2.4 GHz WiFi #1



2.4 GHz WiFi Case #1



2.4 GHz WiFi Case #1



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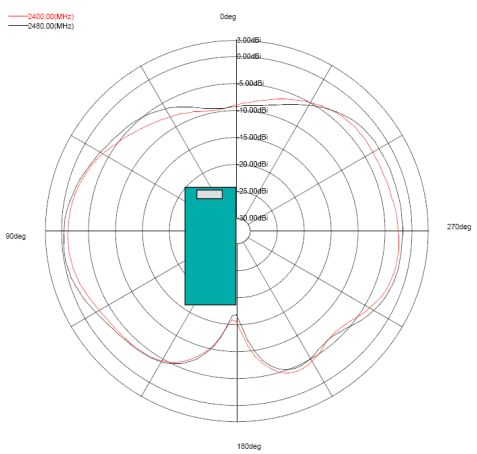
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

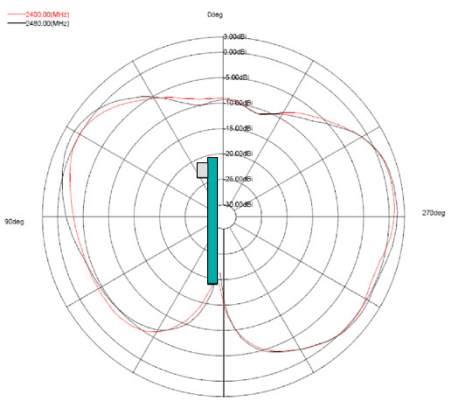
WiFi Antenna Case #1

Typical Free Space Radiation Patterns

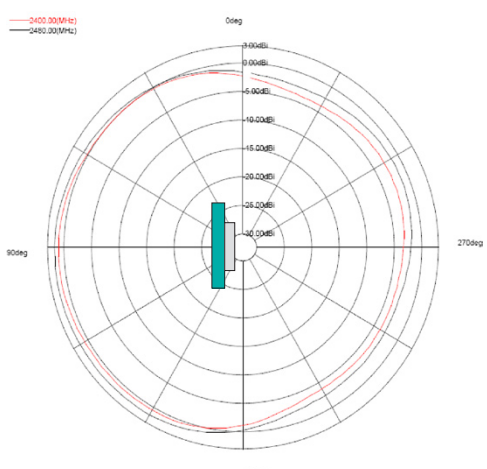
XZ-PLANE

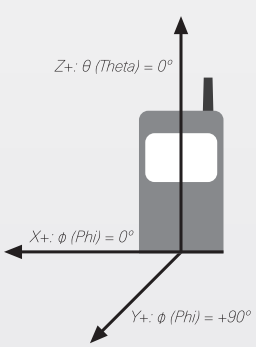


ZY-PLANE



XY-PLANE





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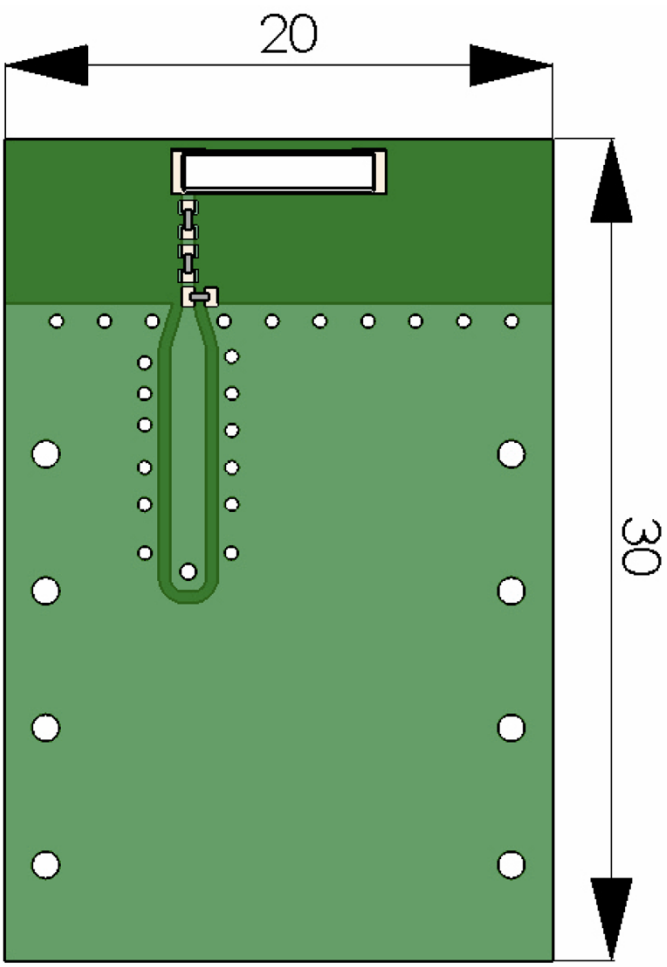
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

WiFi Antenna Case #2

Board Size 20 x 30 mm

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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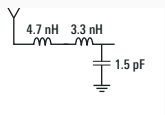
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

WiFi Antenna Case #2, Test Set Up and Measurement Performance

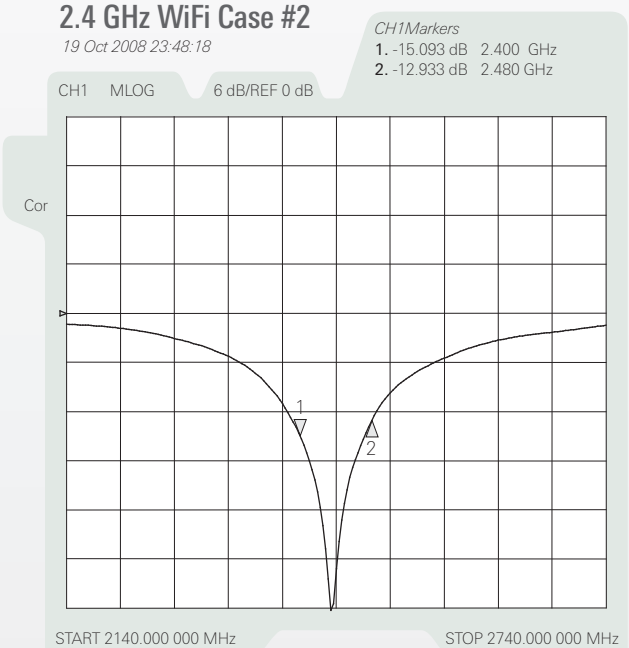
Ground cleared under antenna, clearance area 20.00 x 6.00 mm.



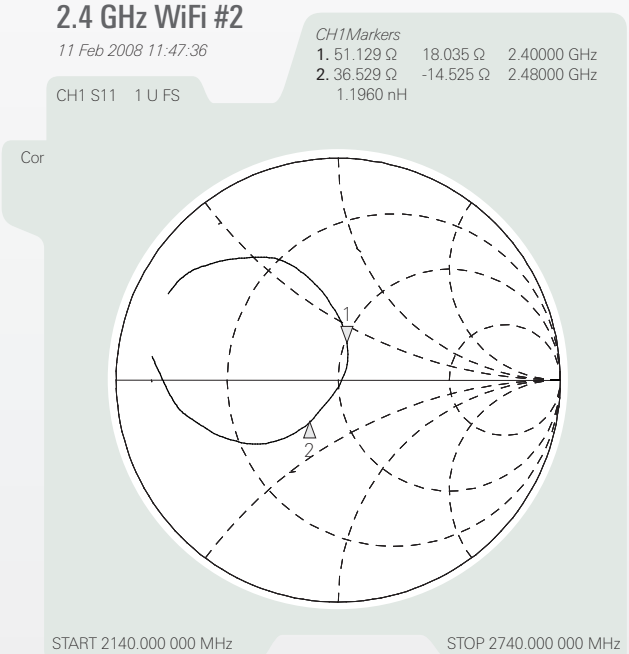
Typical Electrical Characteristics (T=25 °C)

Measured on the 30 x 20 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain.

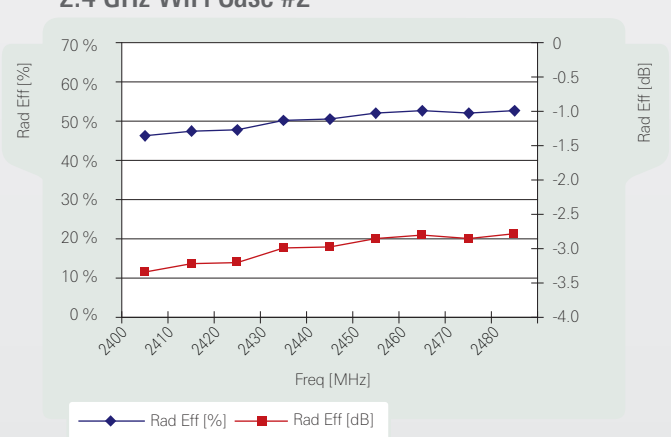
2.4 GHz WiFi Case #2



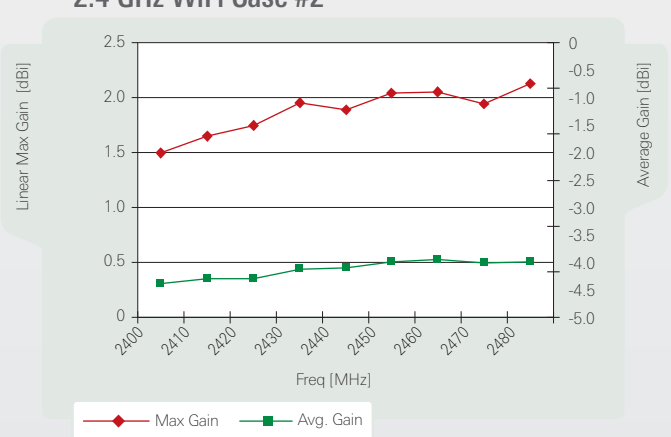
2.4 GHz WiFi #2



2.4 GHz WiFi Case #2



2.4 GHz WiFi Case #2



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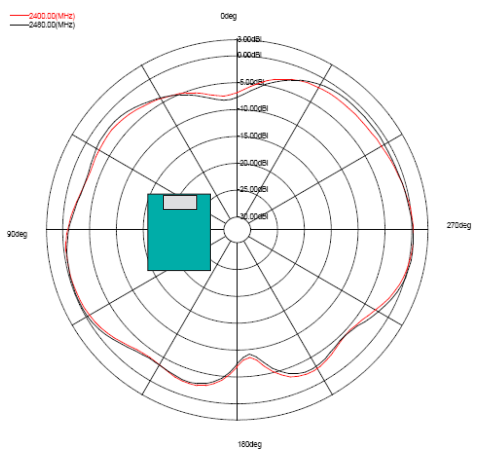
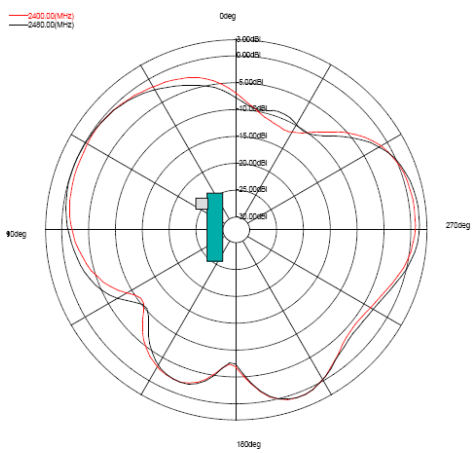
WiFi Antenna Case #2

Typical Free Space Radiation Patterns

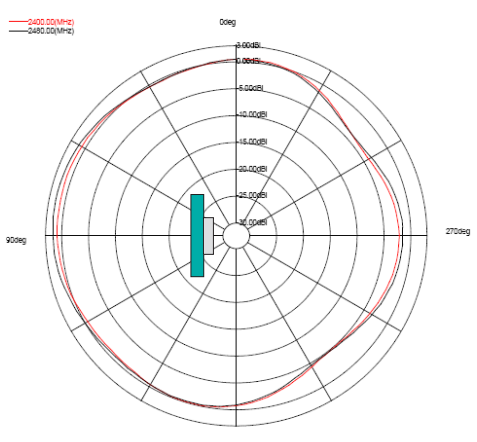
XZ-PLANE

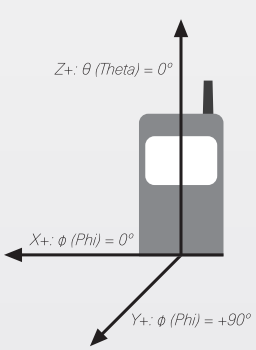


ZY-PLANE



XY-PLANE





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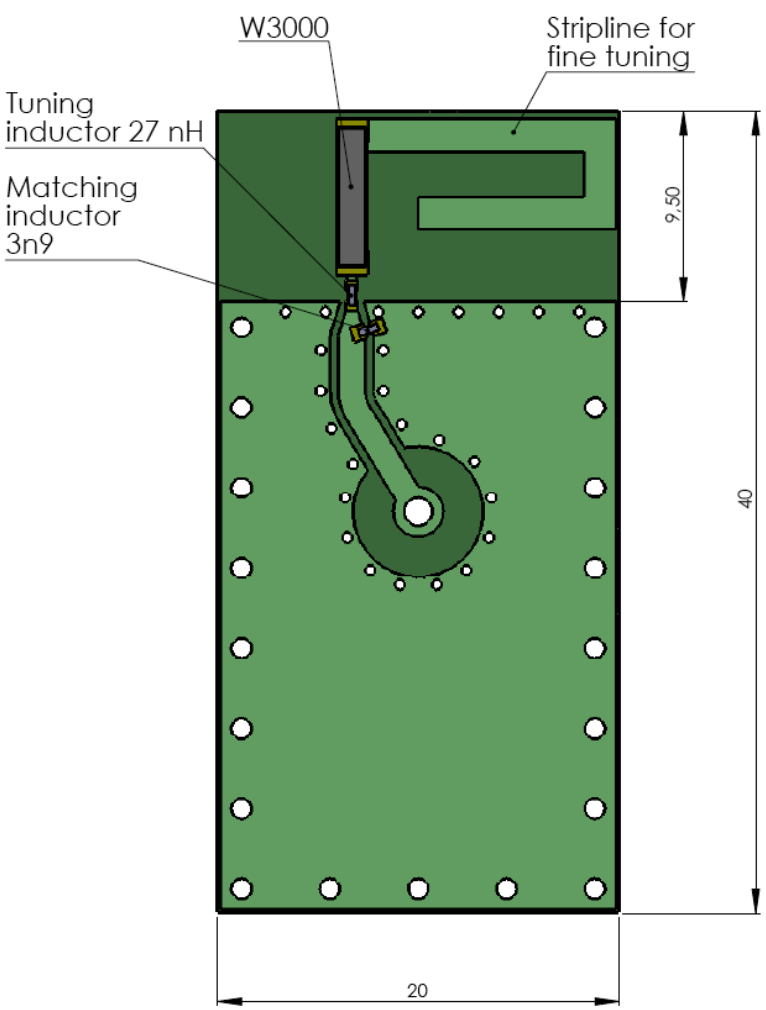
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

ISM 868 MHz Antenna Case #1

Board Size 20 x 40 mm

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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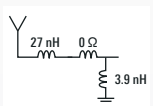
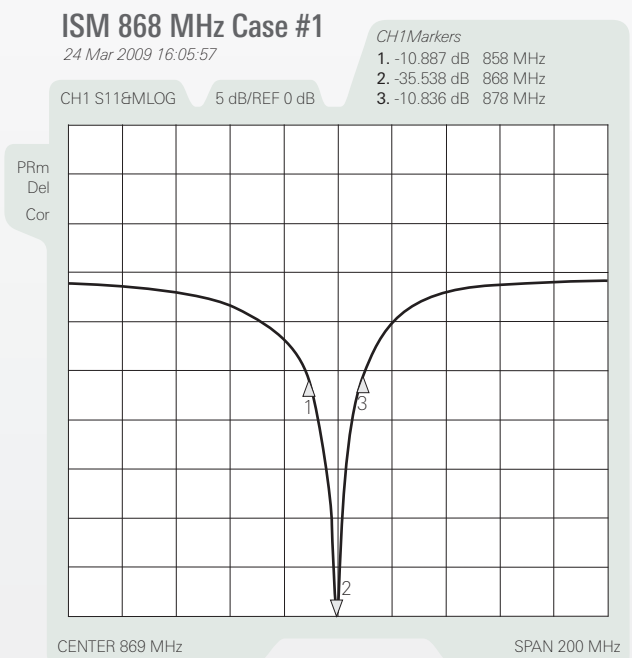
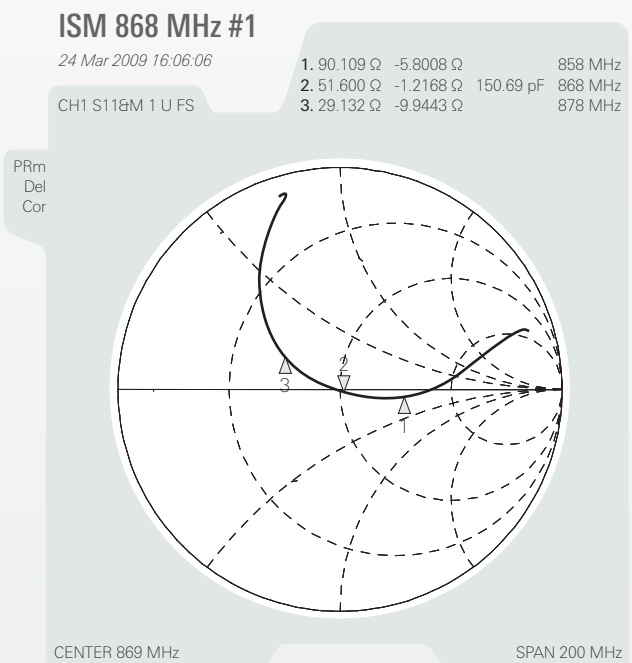
ISM 868 MHz Antenna Case #1, Test Set Up and Measurement Performance

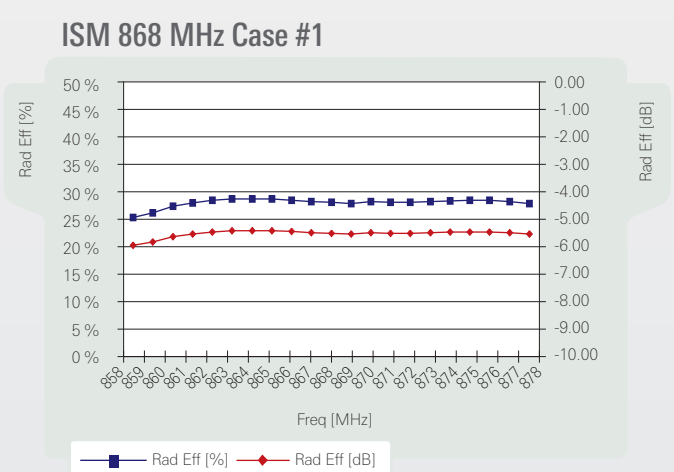
Typical Electrical Characteristics (T=25 °C)

Measured on the 20 x 40 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain.









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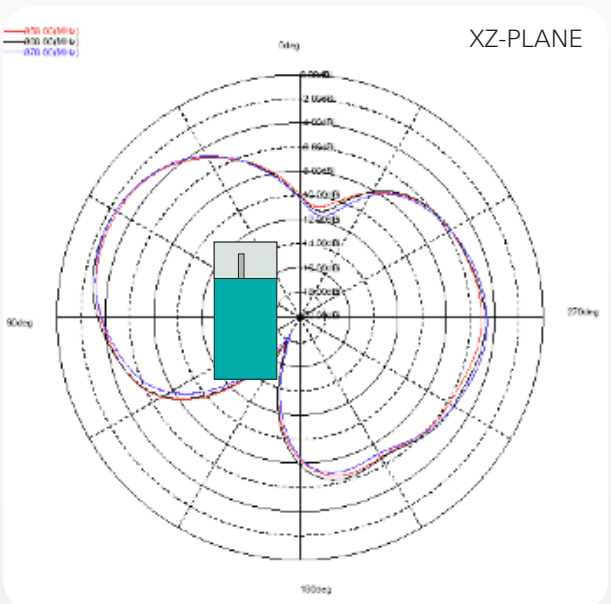
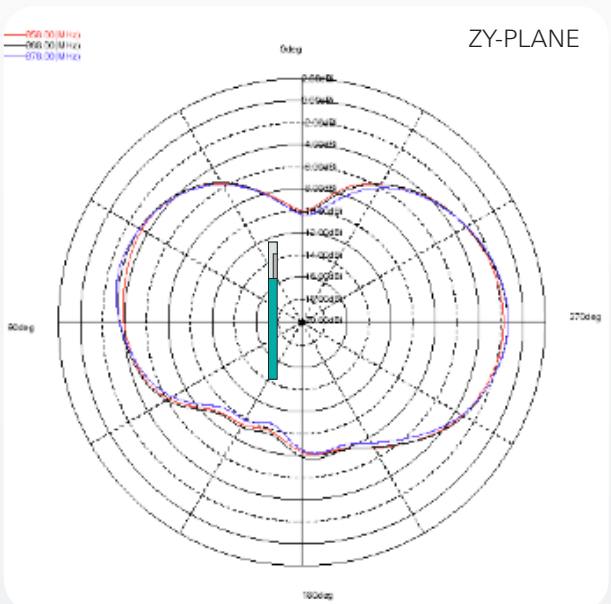
Ceramic Monopole Antenna

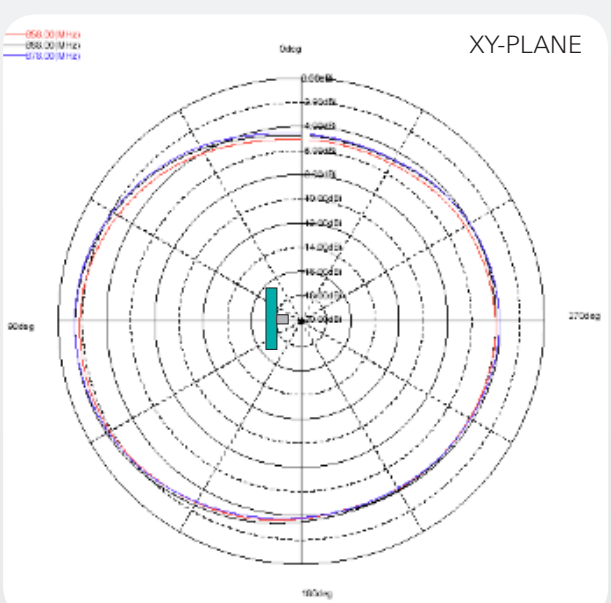
Ground cleared under antenna. Pulse Part Number: W3000

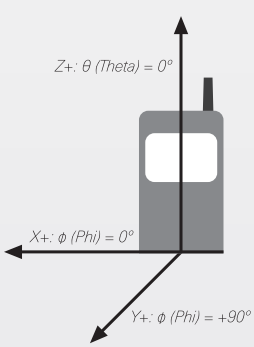
ISM 868 MHz Antenna Case #1

Typical Free Space Radiation Patterns









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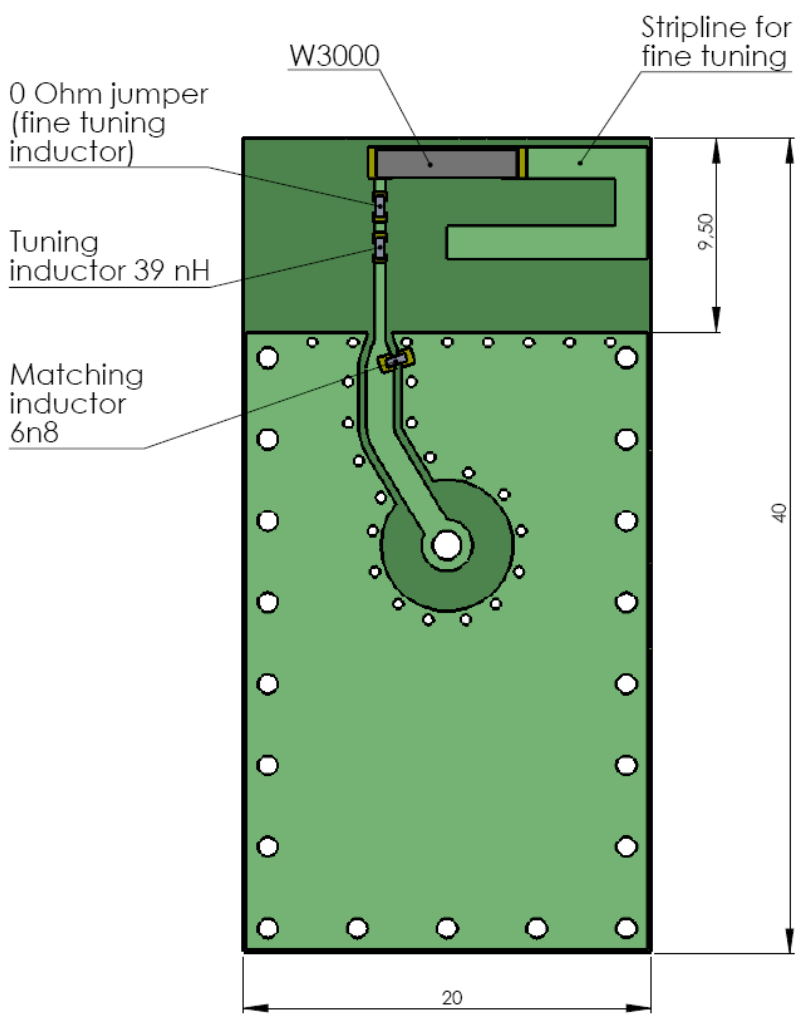
Ceramic Monopole Antenna

Ground cleared under antenna. Pulse Part Number: W3000

ISM 868 MHz Antenna Case #2

Board Size 20 x 40 mm

Recommended antenna position on PWB for W3000 MONOPOLE Antenna



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Ceramic Monopole Antenna

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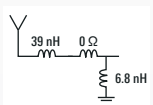
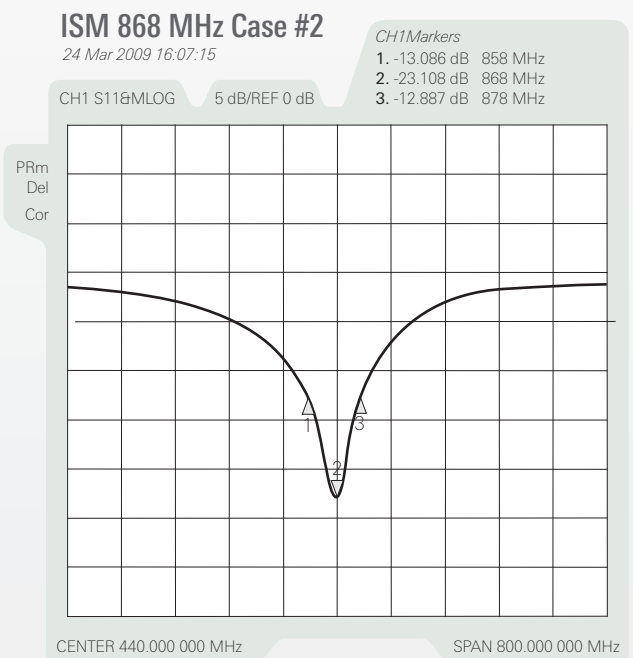
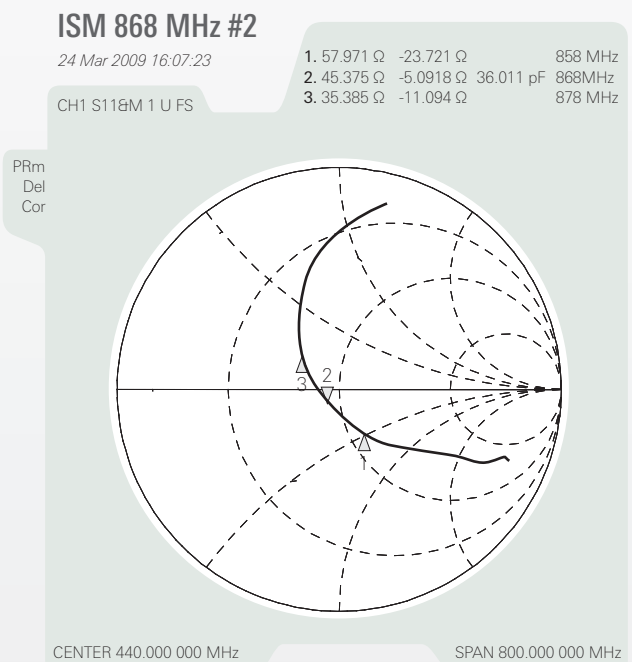
ISM 868 MHz Antenna Case #2, Test Set Up and Measurement Performance

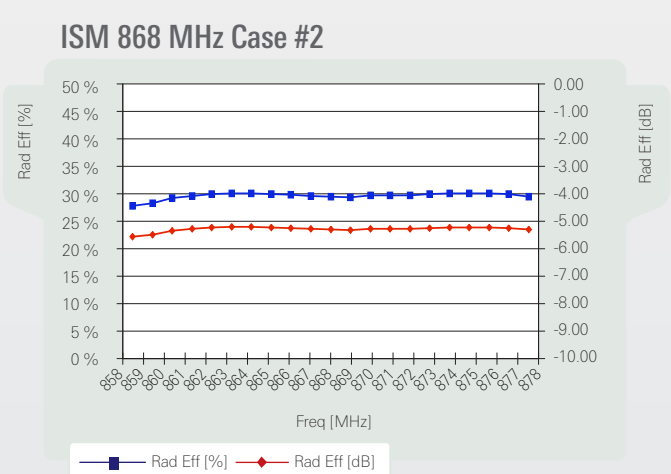
Typical Electrical Characteristics (T=25 °C)

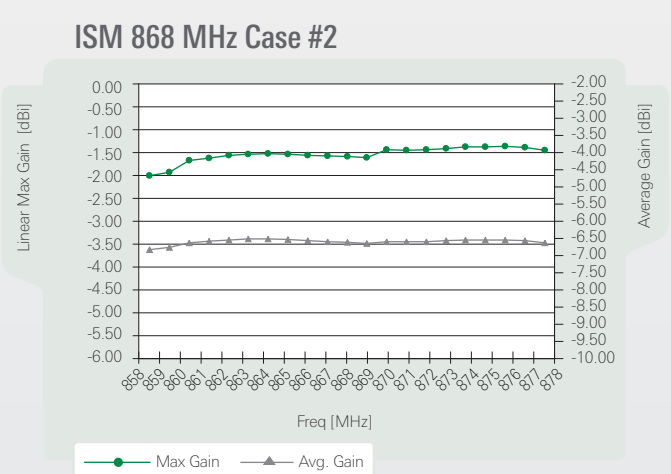
Measured on the 20 x 40 mm test board with matching circuit. Measured in antenna position1 on PWB layout, see previous page. Typical Return Loss S11/ impedance, free space efficiency and gain











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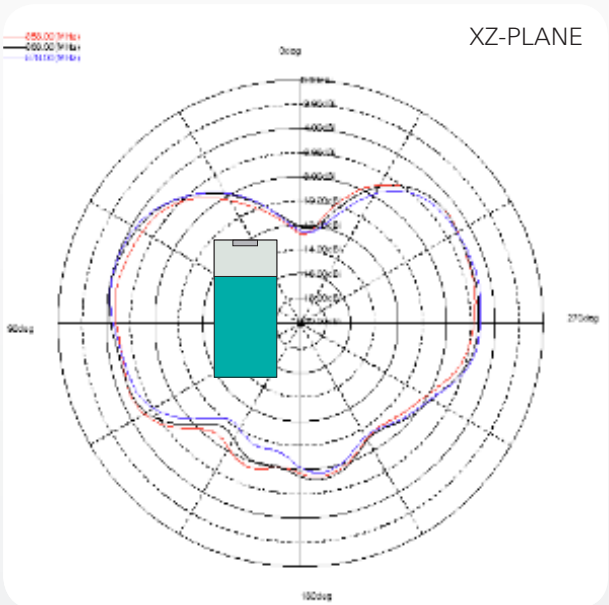
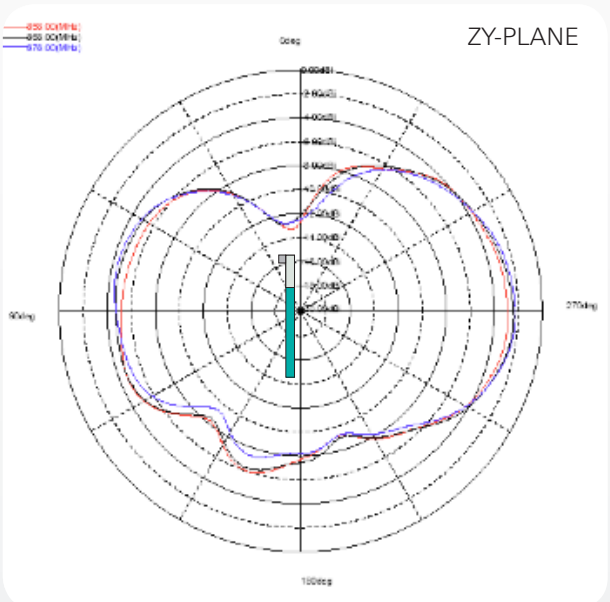
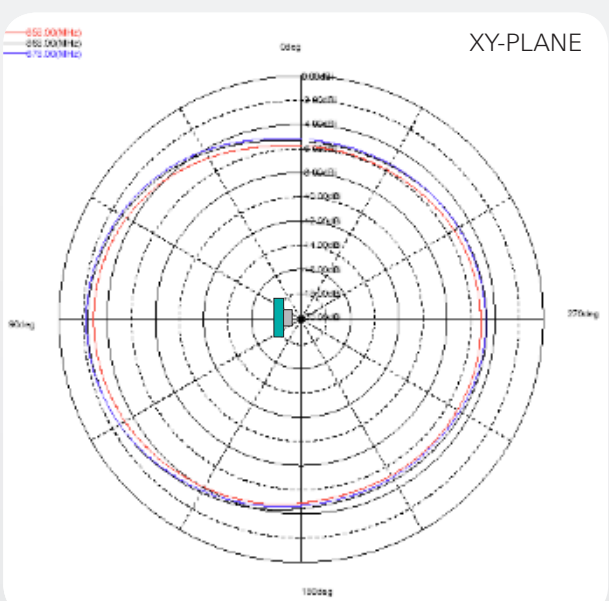
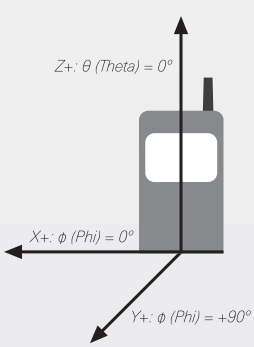
ISM 868 MHz Antenna Case #2

Typical Free Space Radiation Patterns









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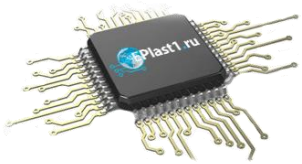
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.