

"High Frequency Ceramic Solutions"

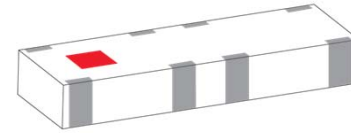
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

Page 1 of 9

General Specifications

Part Number	2450AD47A1590					
Frequency (MHz)	2400~2500	1561	1575	1602		
Peak Gain (dBi typ.)	1.0 (YZ-Total)	0.5 (YZ-Total)	1.5 (YZ-Total)	1.5 (YZ-Total)		
Average Gain (dBi typ.)	-1.0 (YZ-Total)	-2.5 (YZ-Total)	-2.0 (YZ-Total)	-2.0 (YZ-Total)		
Return Loss (dB)	8 min.	7.5 min.	9.0 min.	8 min.	Reel Quantity	1,000
Ave Radiation Efficiency %¹ (on JTI EVB)	83	45	51	51	Operating Temperature	-40 to +85°C
Isolation	20 dB	15 dB	15 dB	15 dB	Storage Temperature	-40 to +85°C
					Storage Period	18 months max.
					Power Capacity	2W max. (CW)



¹On Johanson test board p/n: 2450AD47A1590-EB1SMA. EVB details on pages 2/3

Part Number Explanation

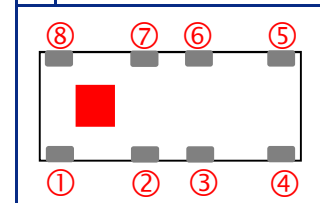
P/N Suffix	Packing Style	Bulk (loose)	Suffix = S	e.g., 2450AD47A1590S
		T & R	Suffix = E	e.g., 2450AD47A1590E
		100% Tin	Suffix = E or S	e.g., 2450AD47A1590(E or S)
	Evaluation Board	2450AD47A1590-EB1SMA (Pre-tuned with SMA connectors)		

Mechanical Dimensions

	In	mm
L	0.394 ± 0.008	10.00 ± 0.20
W	0.126 ± 0.008	3.20 ± 0.20
T	0.059 ± 0.008	1.50 ± 0.20
a1	0.031 ± 0.008	0.80 ± 0.20
a2	0.106 ± 0.008	2.70 ± 0.20
a3	0.039 ± 0.008	1.00 ± 0.20
b	0.012 ± 0.004/-0.008	0.30 ± 0.1/-0.2

Terminal Configuration

No.	Function
1	2.4GHz Feed Point
2	GND
3	GND
4	1.5-1.6GHz Feed Point
5	GND
6	GND
7	GND
8	GND



Find out more about our antenna design assistance services at:

<http://www.johansontechnology.com/ipc-antenna-services>

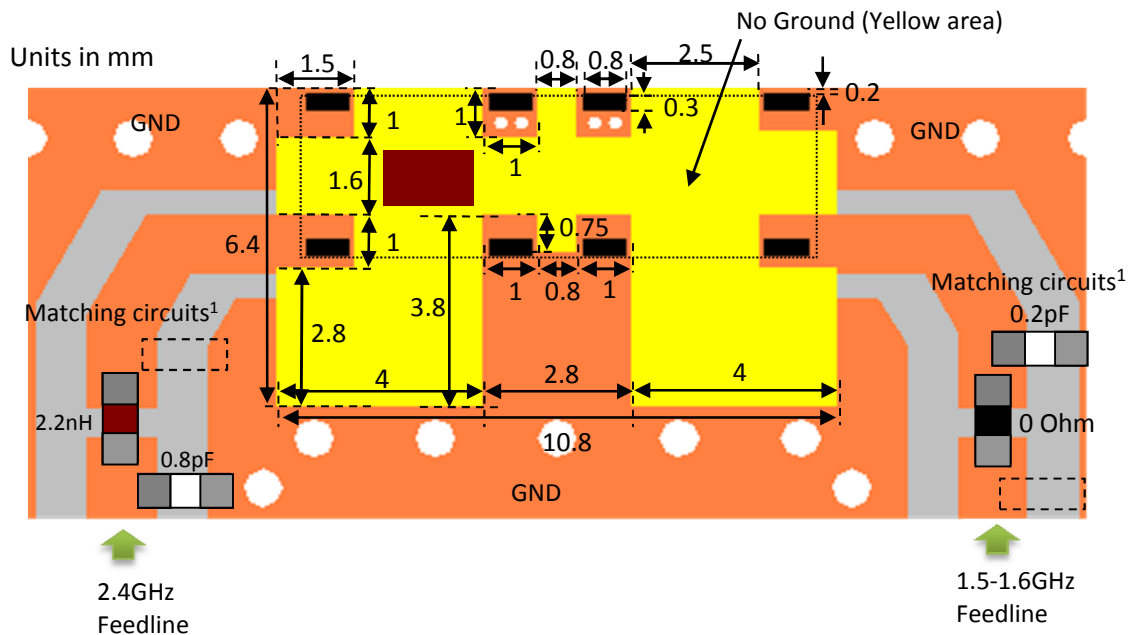
"High Frequency Ceramic Solutions"

BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

Page 2 of 9

Layout Recommendations



Would you like the layout file of the above? Contact our applications engineers at: www.johansontechnology.com/ask-a-question

¹Attention: Matching circuits and component values will be different on the client's design, depending on PCB layout, geometry, etc. It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values you see here are used when antenna is mounted on Johanson's evaluation board.

Need help laying out the antenna, want us to review your antenna design (free!), require the Gerber files for this EVB, or would like us to validate the new tuning values of your PCB (fee may apply) go to: www.johansontechnology.com/ask-a-question

Orderable EVB for evaluation, it comes with a female SMA connector. Go to: www.johansontechnology.com/component/samplerrequest and ask for p/n 2450AD47A1590-EB1SMA

* Line width should be designed to match 50Ω characteristic impedance, depending on PCB material, thickness, and preferably CPWG (co-planar wave guide) type.

Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

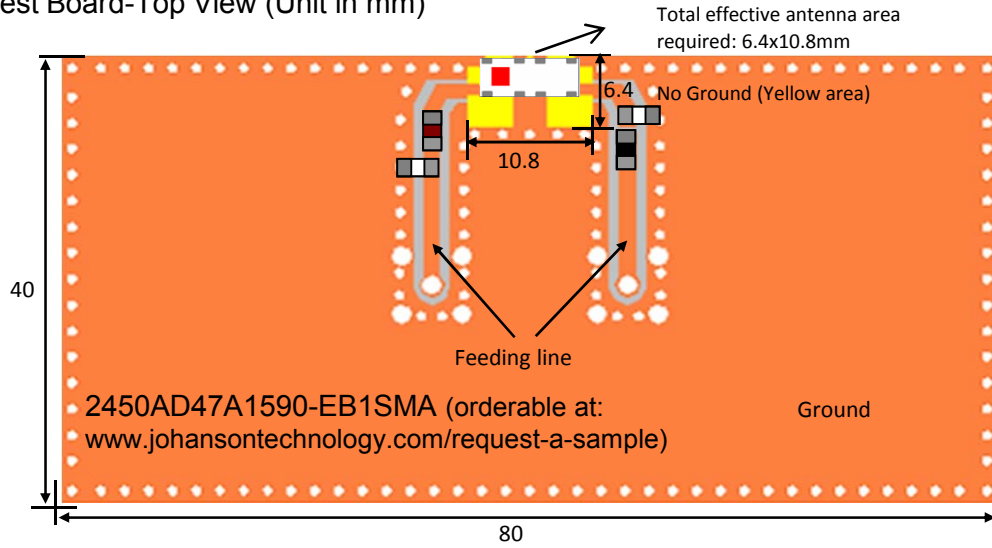
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

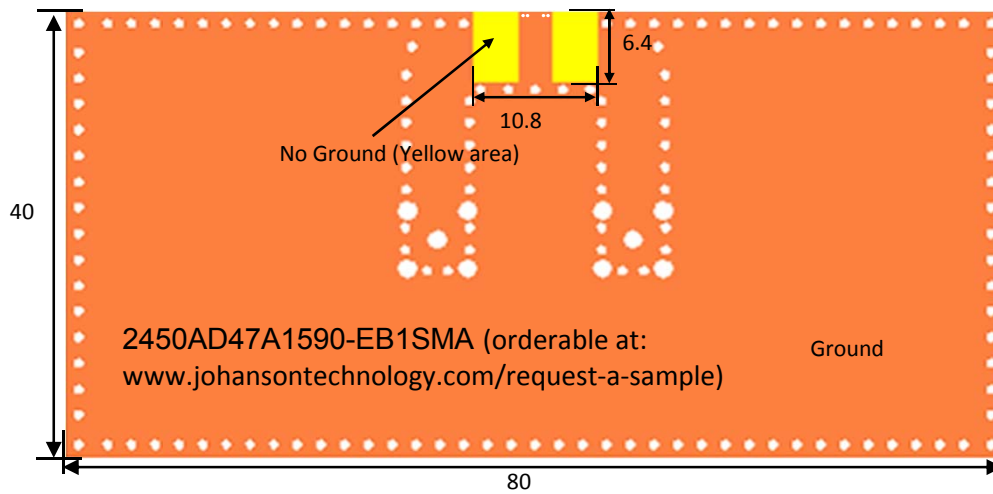
Page 3 of 9

Typical Electrical Characteristics (T=25°C)

❖ Test Board-Top View (Unit in mm)



❖ Test Board-Bottom View (Unit in mm)



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

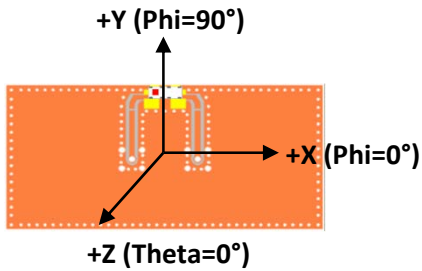
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

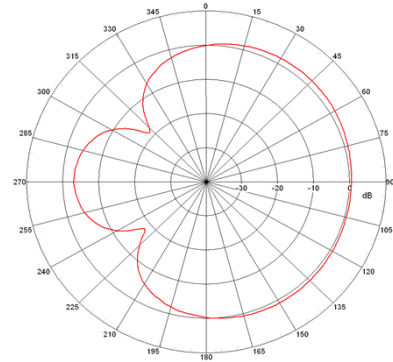
Page 5 of 9

Typical Radiation Patterns

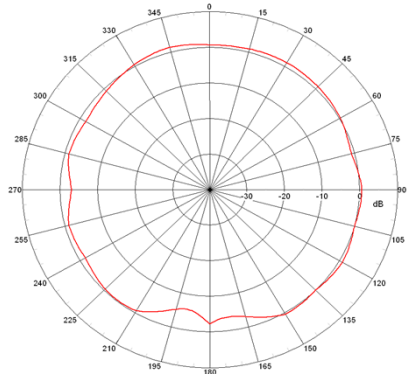
❖ Radiation Patterns @ 2.44GHz



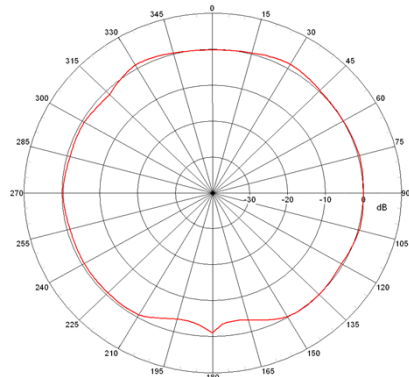
XY-Plane



YZ-Plane



XZ-Plane



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

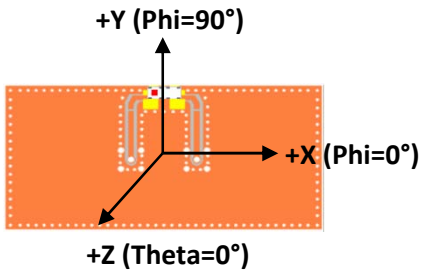
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

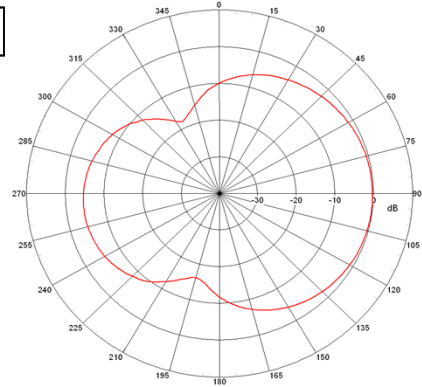
Page 6 of 9

Typical Radiation Patterns

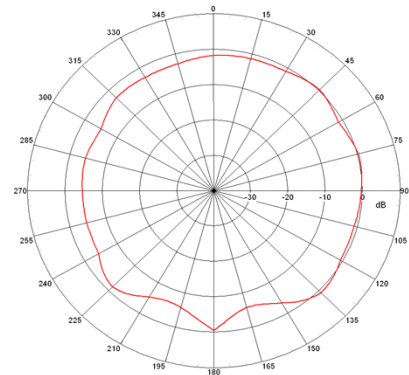
❖ Radiation Patterns @ 1.561GHz



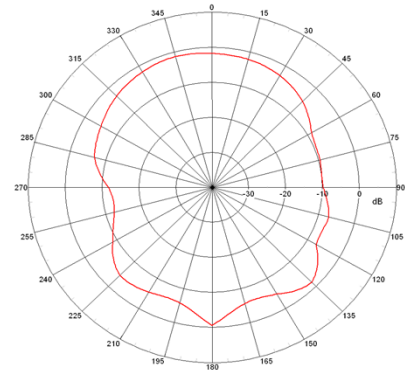
XY-Plane



YZ-Plane



XZ-Plane



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

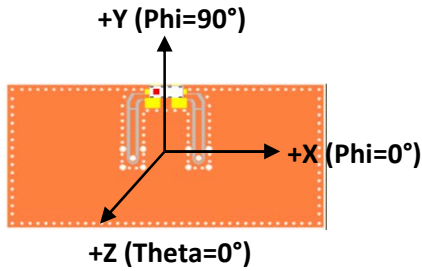
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

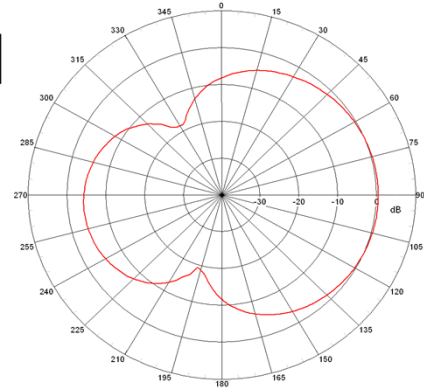
Page 7 of 9

Typical Radiation Patterns

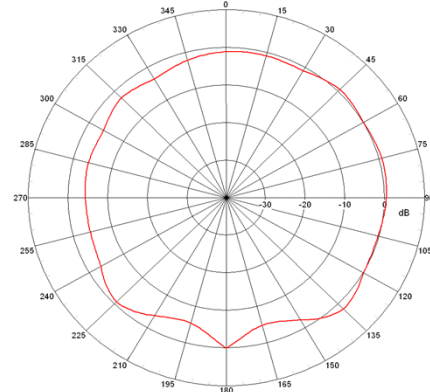
❖ Radiation Patterns @ 1.575GHz



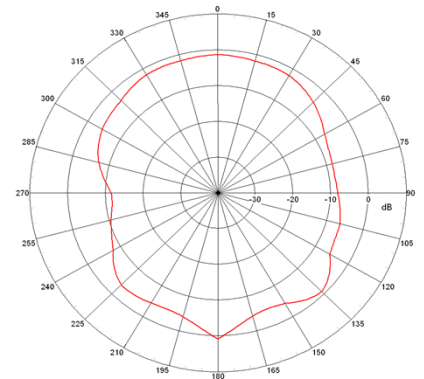
XY-Plane



YZ-Plane



XZ-Plane



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

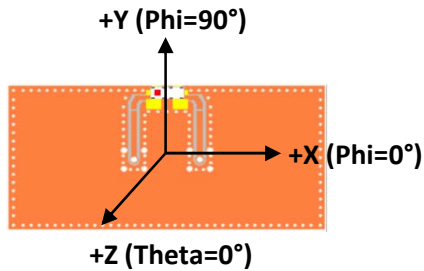
BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

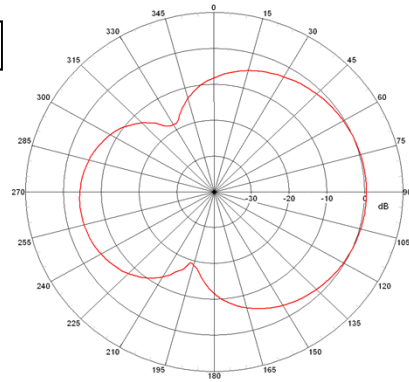
Page 8 of 9

Typical Radiation Patterns

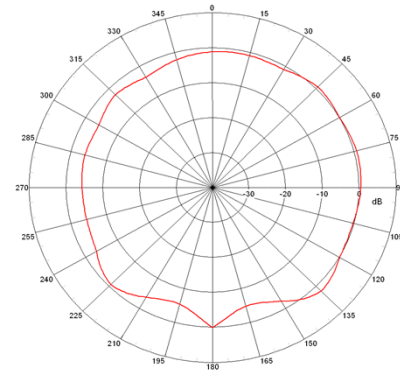
❖ Radiation Patterns @ 1.602GHz



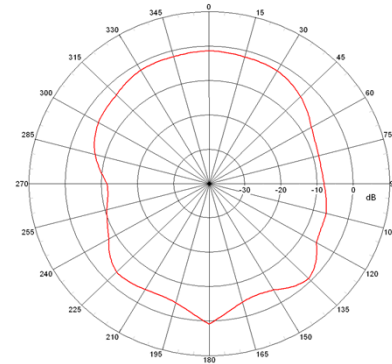
XY-Plane



YZ-Plane



XZ-Plane



Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

"High Frequency Ceramic Solutions"

BT/WiFi and GPS/BDS/GLNSS Quad band, Dual Feed Chip Antenna: 2.4/1.561/1.575/1.602GHz, SMD P/N 2450AD47A1590

Detail Specification: 11/10/2015

Page 9 of 9

Antenna tuning, optimization, and validation services:

www.johansontechnology.com/ipcantennaservices

For more antennas and to download measured S-parameters, go to:

www.johansontechnology.com/antennas

Soldering Information

www.johansontechnology.com/ipcsoldering-profile

MSL Info

www.johansontechnology.com/technical-notes/msl-rating.html

Packaging information

www.johansontechnology.com/ipcpackaging.html

For layout review contact our Applications Team at:

www.johansontechnology.com/component/techquestion

RoHS Compliance

www.johansontechnology.com/technical-notes/rohs-compliance.html

Johanson Technology, Inc. reserves the right to make design changes without notice. Please confirm the specifications and delivery conditions when placing your order. All sales are subject to Johanson Technology, Inc. terms and conditions.



www.johansontechnology.com

4001 Calle Tecate • Camarillo, CA 93012 • TEL 805.389.1166 FAX 805.389.1821

Ver 1.0

2015 Johanson Technology, Inc. All Rights Reserved

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

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- 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.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«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).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

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

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А