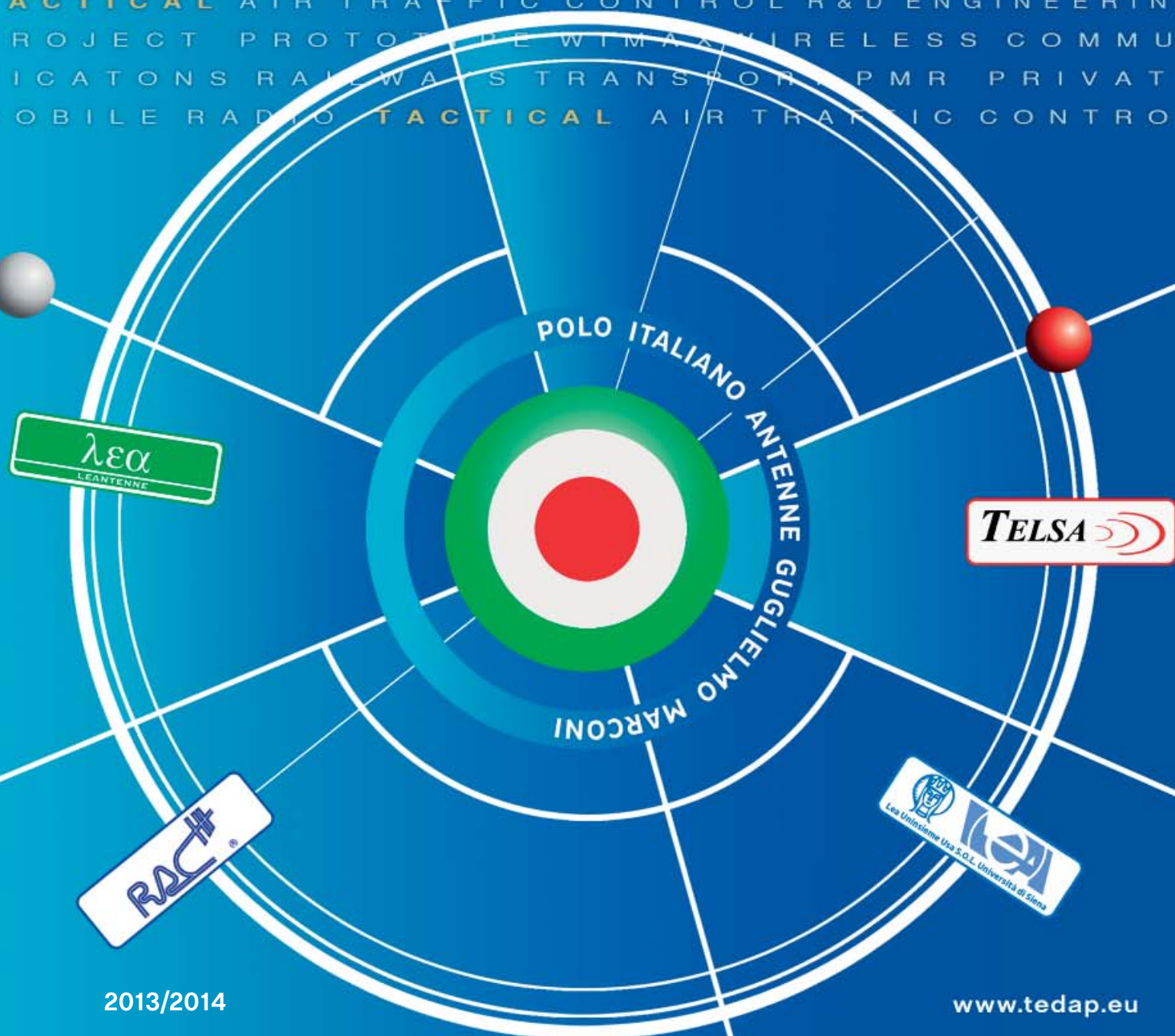




TACTICAL

R & D ENGINEERING PROJECT PROTOTYPE WIMAX
WIRELESS COMMUNICATIONS RAILWAYS TRANSPORT PMR PRIVATE MOBILE RADIO **TACTICAL** AIR
TRAFFIC CONTROL R & D ENGINEERING PROJECT PROTOTYPE WIMAX WIRELESS COMMUNICATIONS
RAILWAYS TRANSPORT PMR PRIVATE MOBILE RADIO **TACTICAL** AIR TRAFFIC CONTROL R & D ENGINEERING
PROJECT PROTOTYPE WIMAX WIRELESS COMMUNICATIONS RAILWAYS TRANSPORT PMR PRIVATE
MOBILE RADIO **TACTICAL** AIR TRAFFIC CONTROL



TEDAP RADIO FREQUENCY ANTENNAS PROJECTS SRL IS THE EXCLUSIVE WORLDWIDE RESELLER FOR ANTENNA BRANDS



TEDAP NETWORK (RETE D'IMPRESA), with an official joint management is now a market leader in the design, production and supply of products of radio transmission equipment.

POLO ITALIANO ANTENNE GUGLIELMO MARCONI

TEDAP's portfolio serves this main market segments:

- **AIR TRAFFIC CONTROL;**
- **TACTICAL;**
- **PMR PRIVATE MOBILE RADIO;**
- **RAILWAYS / TRANSPORT;**
- **WIMAX / WIRELESS COMMUNICATIONS;**
- **R&D ENGINEERING / PROJECT / PROTOTYPE.**

TEDAP has BRANCHES across Europe: for this reason, we are sure that professional radio operators and system integrators will find the best solution to any of their needs in our wide range of catalogue offers.

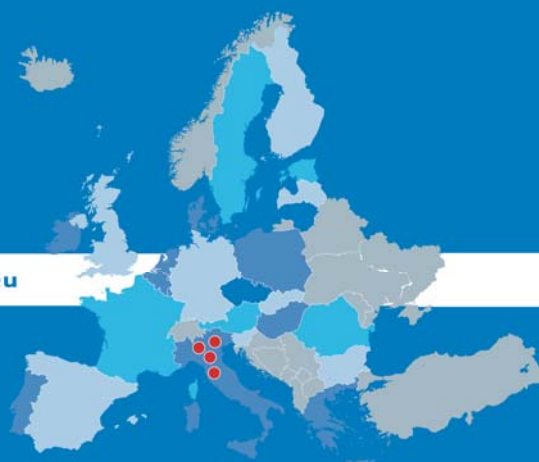
Per i mercati più importanti avremmo una joint commerciale (**TEDAP DOMESTIC**) con i partners locali tecnici / commerciali.

All **TEDAP** products can be made and/or readapted anyway to the needs or the specific requests of our Clients. **TEDAP's** European vision in the communications market enables our clients to appreciate our results in research, thanks to trials and creativity, which underlie our wide production range. All **TEDAP** products are the result of the cooperation between experts from universities and multinational companies. **TEDAP's** production process is fully "made in Europe": it guarantees the top quality of its components, precise manufacturing and attention to detail, in order to meet the need for high quality and durable products.

Every **TEDAP** item undergoes strict quality controls, in full compliance with the requirements of the **ISO 9001:2008 standard**.



www.tedap.eu



VEHICULAR ANTENNAS

TACTICAL ANTENNAS

MANPACK ANTENNAS

PANEL ANTENNAS

TACTICAL FILTERS



VEHICULAR ANTENNA

220 ÷ 520 MHz

T01110616

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	220 ÷ 520
Impedance (Ω)	50
VSWR	< 2.5
Pattern	
Horizontal Plane	omni \pm 1dB
Vertical Plane -3dB (degree)	90
Gain (dBi)	> 2
Continuous Max Power (W)	100
Op. Temp. Range ($^{\circ}$ C)	- 40 ÷ 70
Lightning Protection	DC grounded

Mechanical Specifications

Connector	TNCf
Dimensions (mm)	
Length	975
Radome diameter	\varnothing 40
Weight (g)	3500
Colour	dark yellow
Radome	Fiberglass UV resistant
Mounting	NATO standard 4 hole
Wind Load (N) @ 150 Km/h	50

Environmental Specifications

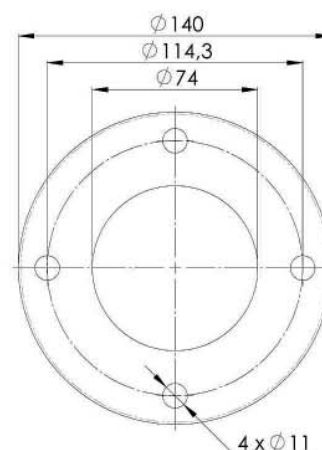
IEC 68-2
MIL-STD-810F

DESCRIPTION:

This very compact and functional UHF antenna for mobile applications is designed for operation on the majority of modern in-service military wheeled or trucked vehicles including jeeps, trucks and armored vehicles. It is suitable for operation on shelters and to be mounted on masts or in other permanent installations. Its very rugged and high quality construction guarantees durability and compliance to relevant MIL environmental standards. The antenna is equipped with a high tensile spring at its base. If the antenna strikes an obstacle whilst moving, it will bend and automatically return to its vertical position.

SPECIAL FEATURES:

- Compact dimensions
- Base spring for maximum structural elasticity
- Suitable for all vehicles
- Rugged design especially for rough handling onboard vehicles
- Wide operating temperature range



T01110616-DS REV. A0
Date: 15/06/2011

T46000805-MD Ed. 00



DUALBAND ANTENNA

38 ÷ 88 MHz / 225 ÷ 450 MHz

T01121801

TACTICAL

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

Electrical Specifications

Frequency Band (MHz)	30 ÷ 88 225 ÷ 450
Impedance (Ω)	50
VSWR	30÷88 MHz < 3 225÷400 MHz < 3 400÷450 MHz < 3.5
Isolation between inputs (dB)	> 40
Horizontal pattern (dB) θ=90°	omni ± 1.5
Gain θ=90°	30÷88 MHz > - 7 225÷450 MHz > - 2
Power (W CW) each channels	100

Mechanical Specifications

Connectors	2 x BNCf
Dimensions (mm)	
Length	1500
Radome diameter	Ø 40
Weight (g)	4500
Colour	RAL6014 (olive green)
Radome	Fiberglass UV Resistant
Mounting	NATO standard 4 hole
Wind Load (N) @ 150 Km/h	80

Environmental Specifications

IEC 68-2
MIL-STD-810F

DESCRIPTION:

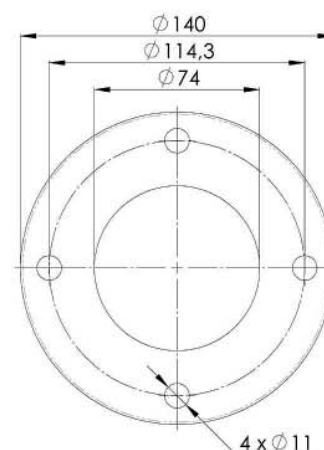
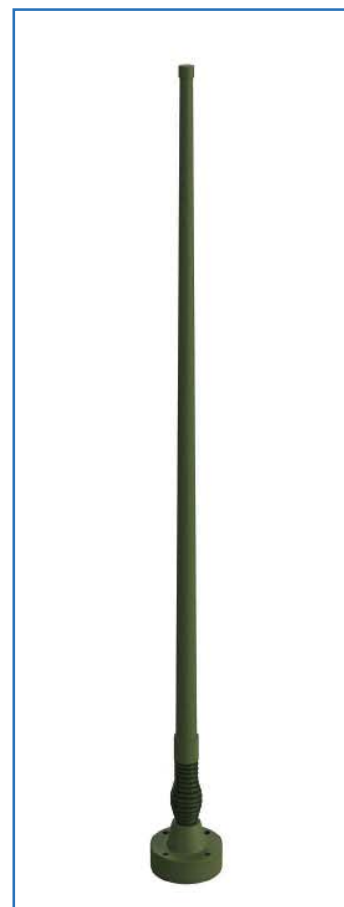
This VHF & UHF Dual-band antenna for mobile applications is designed for operation on the majority of modern in-service military wheeled or trucked vehicles including jeeps, trucks and armored vehicles.

It is suitable for operation on shelters and to be mounted on masts or in other permanent installations. Its very rugged and high quality construction guarantees durability and compliance to relevant MIL environmental standards. The antenna features a high tensile spring at its base. If the antenna strikes an obstacle while moving, it will bend and automatically return to its vertical position.

The two separate ports are highly isolated and the UHF element is located on top to achieve maximum coverage.

SPECIAL FEATURES:

- Two separate inputs for V/UHF
- High isolation [>40 dB] between ports
- Extremely robust and rugged construction
- Base spring for maximum structural elasticity
- Very compact design
- Suitable for all vehicles



T01121801-DS REV. A0
Date: 15/06/2011

T46000805-MD Ed. 00



OMNI VHF/UHF SHIOBIRNE ANTENNA

30 ÷ 512 MHz

T01121803

TACTICAL

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

Electrical Specifications

Frequency Band (MHz)	30 ÷ 512
Impedance (Ω)	50
VSWR	< 3.5
Polarization	vertical
Gain (dBi)	-5 ÷ +1
Power (W CW)	50
Elevation coverage	$\lambda/4$ monopole
Azimuth coverage	omni ± 1.5 dB
Operating Temperature ($^{\circ}\text{C}$)	-20 ÷ 55
Storage Temperature ($^{\circ}\text{C}$)	-20 ÷ 70

Mechanical Specifications

Connectors	Nf
Dimensions (mm)	
Length	1700
Radome diameter	$\varnothing 40$
Weight (Kg)	~ 5
Radome	Fiberglass UV Resistant
Mounting	NATO standard 4 hole
Wind Load (N) @ 150 Km/h	80

Environmental Specifications

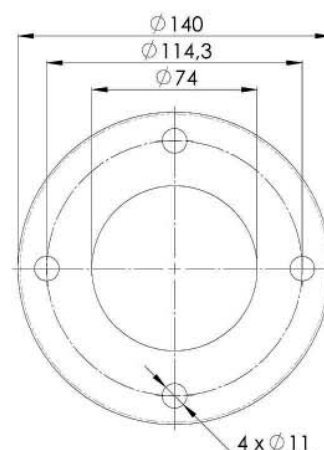
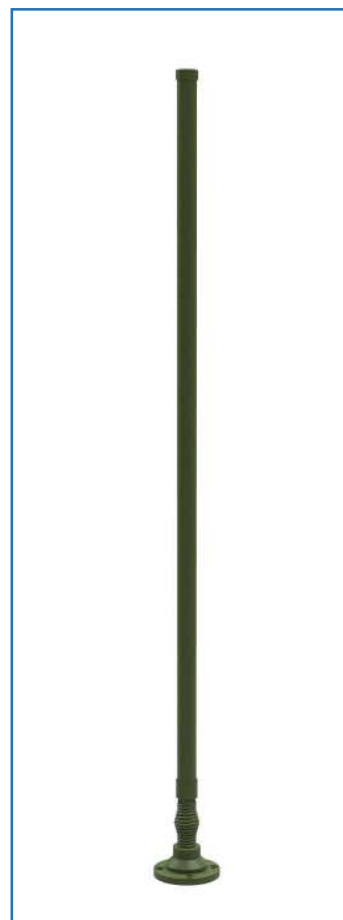
N1 JSS 55555

DESCRIPTION:

The T01121803 is an Ultra Wide Band antenna in vertical polarization covering the complete 30-512 MHz range suitable for all mobile applications, from wheeled/trucked vehicles to ships. The antenna is equipped with a high tensile spring at its base. If the antenna strikes an obstacle whilst moving, it will bend and automatically return to its vertical position. The very rugged & salt-fog resistant construction makes this antenna the ideal choice for use on ships and in other harsh environments. Also available with GPS antenna (optional) integrated inside the base avoiding therefore the installation of a separate antenna.

SPECIAL FEATURES:

- Very wide frequency range
- High gain
- Sturdy design
- Isolated from salt-fog
- Can be used on ships or vehicles
- Base spring for maximum structural elasticity
- Optional GPS integrated antenna



T01121803-DS REV. A0
Date: 30/07/2012

T46000805-MD Ed. 00



DUALBAND ANTENNA

38 ÷ 88 MHz / 450 ÷ 807 MHz

T01121804

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	30 ÷ 88 450 ÷ 807
Impedance (Ω)	50
VSWR	30÷88 MHz < 3.5 450÷807 MHz < 3.5
Isolation beetwen inputs (dB)	> 40
Horizontal pattern (dB) θ=90°	omni ± 1.5
Gain θ=90°	30÷88 MHz > - 7 450÷807 MHz > - 2
Power (W CW) each channels	100

Mechanical Specifications

Connectors	2 x BNCf
Dimensions (mm)	
Length	1500
Radome diameter	Ø 40
Weight (g)	4500
Colour	RAL 6014 (olive green)
Radome	Fiberglass UV Resistant
Mounting	NATO standard 4 hole
Wind Load (N) @ 150 Km/h	80

Environmental Specifications

IEC 68-2
MIL-STD-810F

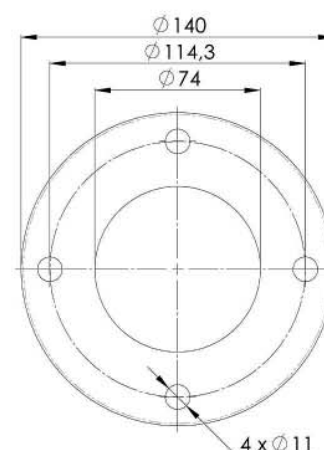
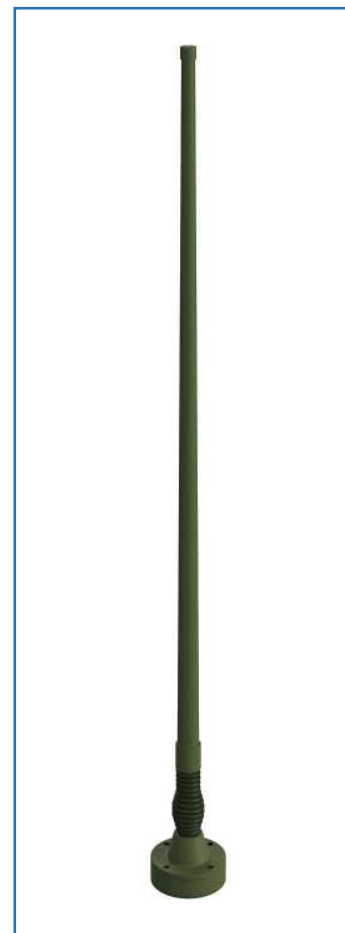
DESCRIPTION:

This high power dual band antenna is suitable for mobile applications and designed for operation on the majority of modern in-service military wheeled or trucked vehicles including jeeps, trucks and armored vehicles. The antenna is equipped with a high tensile spring at its base. If the antenna strikes an obstacle whilst moving, it will bend and automatically return to its vertical position.

The two separate ports are highly isolated and the UHF element is located on top to achieve maximum coverage.

SPECIAL FEATURES:

- Two separate inputs for V/UHF
- High isolation [>40 dB] between ports
- Extremely robust and rugged construction
- Base spring for maximum structural elasticity
- Very compact design
- Suitable for all vehicles



T01121804-DS REV. A0
Date: 15/06/2011

T46000805-MD Ed. 00



OMNI VHF/UHF HIGH POWER BROADBAND VEHICULAR ANTENNA

30 ÷ 512 MHz

T01121806

TACTICAL

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

Electrical Specifications

Frequency Band (MHz)	30 ÷ 512
Impedance (Ω)	50
VSWR	< 3.5
Polarization	vertical
Gain (dBi)	-5 ÷ +1
Continuous Max Power (W)	200
Azimuth coverage	Omni
Op. Temp. Range ($^{\circ}\text{C}$)	-55 ÷ 70

Mechanical Specifications

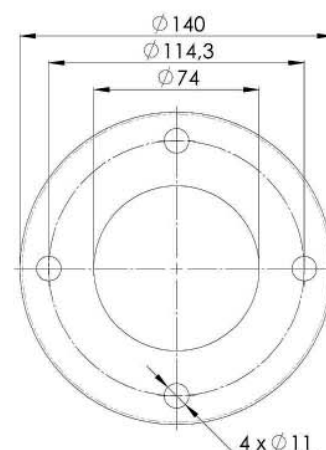
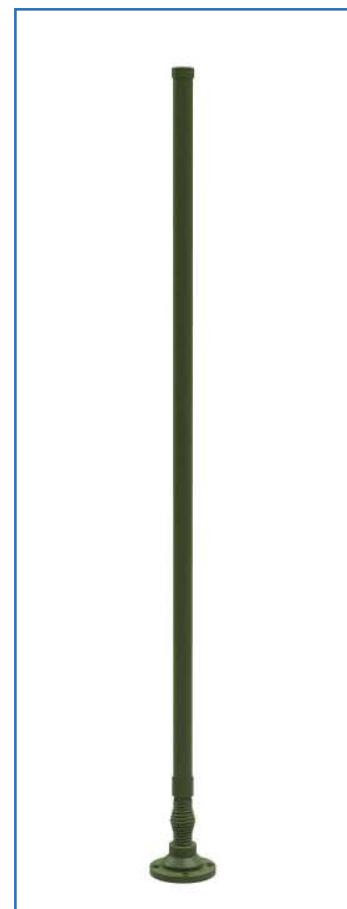
Connectors	Nf
Dimensions (mm)	
Length	1700
Radome diameter	\varnothing 40
Weight (Kg)	~ 5
Radome	Fiberglass UV Resistant
Mounting	NATO standard 4 hole
Wind Load (N) @ 150 Km/h	80

DESCRIPTION:

The T01121806 is an Ultra Wide Band antenna covering the complete 30-512 MHz range. It is suitable for mobile applications and designed for operation on the majority of modern in-service military wheeled or trucked vehicles including jeeps, trucks and armored vehicles. The antenna is mounted with a high tensile spring to counter the effects of impacts whilst moving. The antenna needs no adjustment for different frequencies, and all the tuning elements are within the whip. This very high power [200W] antenna is ideal for both communications and jamming applications.

SPECIAL FEATURES:

- Very wide band
- High gain across the whole band
- Base spring for maximum
- Structural elasticity
- High Power [200W]
- Suitable also for jamming applications
- Suitable for all vehicles



T01121806-DS REV. A0

Date: 30/07/2012

T46000805-MD Ed. 00



OMNIDIRECTIONAL ANTENNA WITH DUAL FEED DIPLEXER

30 ÷ 512 MHz

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

12300011

TACTICAL

Electrical Specifications

Frequency Band (MHz)	
Port Low:	30 ÷ 175
Port High:	225 ÷ 512
Isolation between Port	35 dB
Impedance (Ω)	50
V.S.W.R.	< 3.5 : 1
Input Power (W)	100 Watts maximum
Gain (3x3m ground-plane)	
Line on sight:	-5..2.5 dB rel. 1/4 λ
Peak Gain:	-5..4 Dbl
Polarization	vertical
Azimuthal radiation pattern	Omnidirectional
Connector	N female (BNC available)

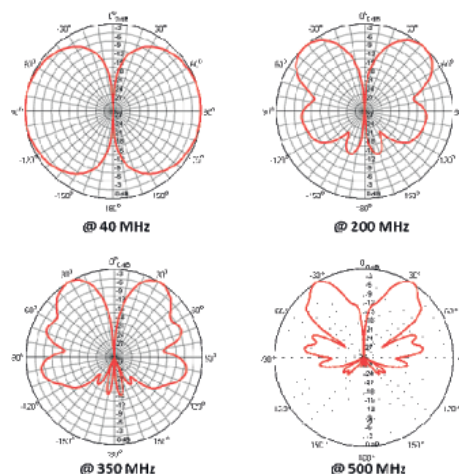
Mechanical Specifications

Lenght	2.11 m
Net weight (g)	abt. 2540
Body material	Aluminium with SURTEC 650 or Alodine 1200 treatment on request
Radome treatment	Fiberglass
Working Temperature ($^{\circ}\text{C}$)	-40 ÷ +85
Wind Rating	160 km/h

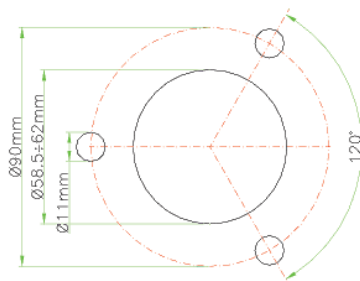
Radiation Pattern

Normalized Radiation Patterns in Elevation Plane

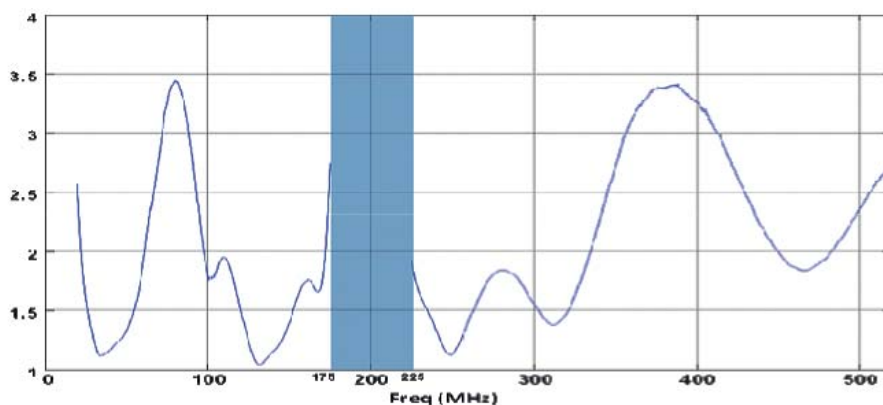
(3x3 m ground plane)



VEHICLE
MOVING
DIRECTION
←



V.S.W.R.





OMNIDIRECTIONAL TANK ANTENNA

900 MHz

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

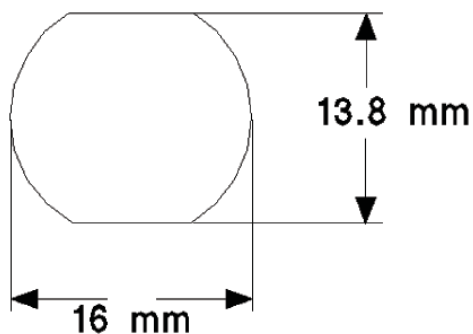
15300018
(SF 900)

TACTICAL

Electrical Specifications

Type	$1/4 \lambda$
Frequency Band (MHz)	917 ÷ 942
Impedance (Ω)	50
V.S.W.R.	< 1.5 : 1
Max Power (W)	100
Polarization	vertical
Gain	>1 dBi

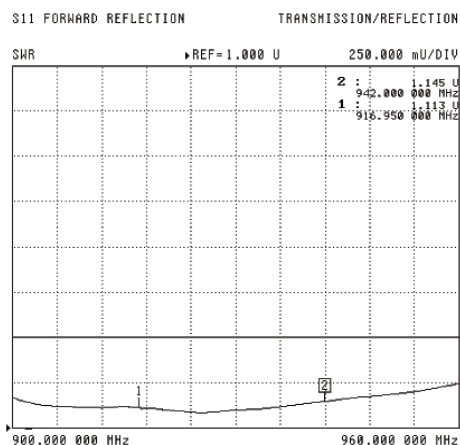
Hole



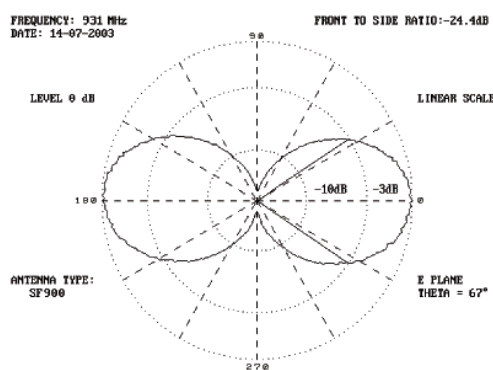
Mechanical Specifications

Dimensions (mm)	ø42x118
Radome material	Polycarbonate
Hole	See figure
Mounting	on metallic surface (min 400x400mm, max thickness 10mm)

V.S.V.R.



Radiation Pattern





OMNIDIRECTIONAL VEHICULAR ANTENNA

2000 ÷ 2500 MHz

T01122502

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	2000 ÷ 2500
Impedance (Ω)	50
VSWR	< 2
Polarization	linear vertical
Gain (dBi)	4 ± 1
Pattern	
Horizontal Plane	omni ± 1 dB
Vertical Plane (degree)	40 ± 3
Side lobes suppression (dB)	> 15
Continuous Max Power (W)	10
Op. Temp. Range (°C)	- 40 ÷ 70
Lightning Protection	DC grounded

Mechanical Specifications

Connector	N f
Dimensions (mm)	
Length	272
Radome diameter	Ø 71
Weight (g)	600
Colour	blurry beige 23717 MIL-STD-22750
Radome	Fiberglass
Mounting	4 × Ø5.2 mm holes on base flange
Wind load @ 150 Km/h (N)	20

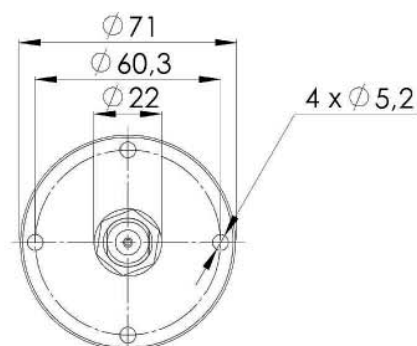
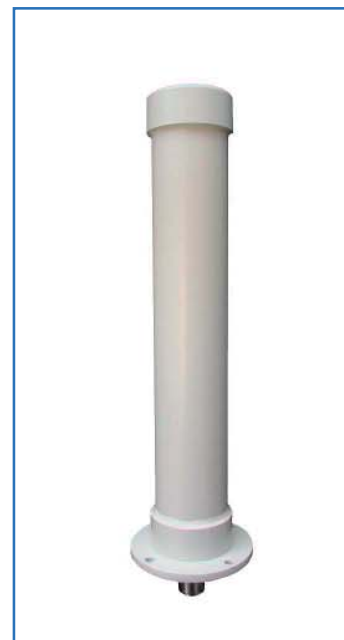
DESCRIPTION:

This very compact and functional antenna for mobile applications in the 2-2.5 GHz frequency range is designed for operation on the majority of modern in-service military wheeled or trucked vehicles including jeeps, trucks and armored vehicles.

Its very rugged and high quality construction guarantees durability and compliance to relevant MIL environmental standards. The antenna is covered with a special painting which impedes any reflection of moonlight.

SPECIAL FEATURES:

- Compact dimensions
- Anti-moonlight reflection painting
- Suitable for all vehicles
- Rugged design especially for rough handling onboard vehicles
- Wide operating temperature range



T01122502-DS REV. 00

Date: 15/06/2011

T46000805-MD Ed. 00



OMNIDIRECTIONAL ANTENNA

1350 ÷ 2700 MHz, 9dBi

T01141601

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	1350 ÷ 2700
Impedance (Ω)	50
VSWR	≤ 1.5
Polarization	linear vertical
Gain (dBi)	≥ 9
Pattern	
Horizontal Plane	omni ± 1 dB
Vertical Plane (degree)	13 ± 2
Continuous Max Power (W)	50
Op. Temp. Range ($^{\circ}\text{C}$)	- 40 ÷ 70
Lightning Protection	DC grounded

Mechanical Specifications

Connector	Nf
Dimensions (mm)	
Length	935
Radome diameter	$\varnothing 40$
Colour	RAL 6014 (olive green)
Weight (Kg)	2
Radome	Fiberglass
Mounting	on pole $\varnothing 40 \div 60$ mm
Wind load @ 150 Km/h (N)	40

DESCRIPTION:

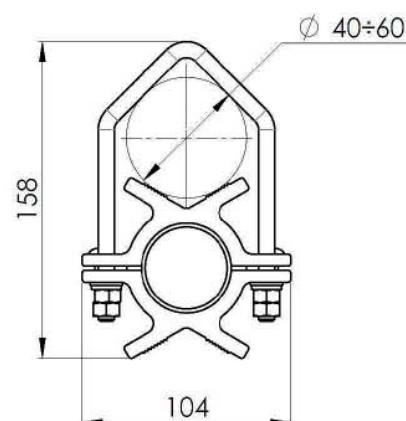
T01141601 is a transportable omnidirectional antenna suited for rapid deployment and ease of use covering the NATO Band III+ frequency range [1350-2700 MHz].

It is uniquely designed for high gain [$>9\text{dBi}$] with signal coverage in all directions. It is ideal for point to-multipoint applications and can easily be mounted on masts or towers.

Compact and lightweight, it is the right choice when signal coverage from any direction is required. It features a specially reinforced flange for maximum robustness in military applications.

SPECIAL FEATURES:

- Lightweight
- High gain
- Omnidirectional radiation
- Easy to deploy
- Very rugged construction
- Protected against lightning



T01141601-DS REV. 00

Date: 15/06/2011

T46000805-MD Ed. 00

Electrical Specifications

Frequency Band (MHz)	610 ÷ 960
Impedance (Ω)	50
VSWR	≤ 2
Polarization	linear: horizontal or vertical
Gain (dBi)	15 ± 2dB
HPBW (degree) H-plane	24
HPBW (degree) E-plane	24
Cross polarization (dB)	> 25
Front-to-back ratio (dB)	> 25
Forward sidelobes ratio (dB)	0° ÷ 80° > 10 80° ÷ 180° > 15
Max. Continuous Power (W)	50
Op. Temp. Range (°C)	-40 ÷ +70
Lightning Protection	DC grounded

Mechanical Specifications

Connector	N f
Dimensions (mm)	1020×898×554
Weight (Kg)	9.7
Colour	Olive Green RAL 6014
Materials	Aluminium Alloy Stainless Steel
Mounting	on pole Ø 40 ÷ 80 mm
Wind load @ 150 Km/h (N)	front 480 side 230

Enviromental Specifications

Humidity	IEC 68-2-30 test Db
Rain	MIL STD 810C method 506.1 proc.II
Vibration	IEC 68-2-6 test Fc proc.A
Salt Spray	IEC 68-2-11 test Ka

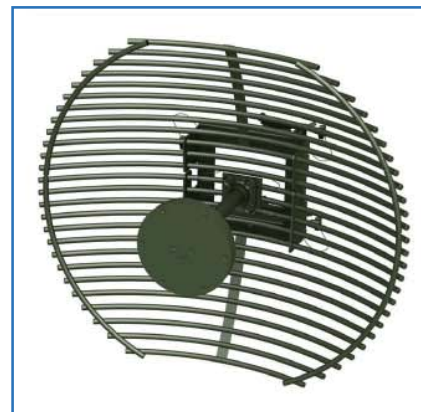
DESCRIPTION:

T01711501 is a high gain [> 15 dB gain] antenna extremely easy to handle and deploy designed for Tactical applications in the NATO Band II frequency range [610-960 MHz].

It is the first Directive Grid Antenna in the 610-690 MHz range ever introduced in the market. Specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder in ABS radome. The brackets are suitable to rotate the polarization with special knobs. The grid reflector splits in two parts, as the brackets and the feeder are removable, so packing is the smallest possible. The grid antenna can be mounted on 40 to 80 mm diameter tubes.

SPECIAL FEATURES:

- Reflector splits in two parts & feeder is removable
- High gain [> 15 dBi]
- Minimal wind load
- Horizontal & vertical polarization
- Easy to handle [only 9.7 Kg] with external package 1100x5200x320mm
- Simple assembly
- First & Only BII Grid antenna in the market



Electrical Specifications

Frequency Band (MHz)	1350 ÷ 2700
Impedance (Ω)	50
VSWR	≤ 2
Polarization	linear: horizontal or vertical
Gain (dBi)	@ 1350 MHz > 21 @ 2700 MHz > 26
HPBW (degree) H-plane	@ 1350 MHz 12 @ 2700 MHz 7
HPBW (degree) E-plane	@ 1350 MHz 13 @ 2700 MHz 7
Cross polarization (dB)	>20 (typical 30)
Front-to-back ratio (dB)	> 25
Forward sidelobes ratio (dB)	0° ÷ 90° > 12 90° ÷ 180° > 20
Continuous max power (W)	50
Op. Temp. Range (°C)	40 ÷ +55
Storage Temp. Range (°C)	-40 ÷ +90

Mechanical Specifications

Connector	N f
Dimensions (mm)	1020×898×554
Weight (Kg)	9
Colour	Olive Green RAL 6014
Materials	Aluminium Alloy Stainless Steel
Mounting	on pole Ø 40 ÷ 80 mm
Wind Load @ 150 Km/h (N)	front 480 side 230

DESCRIPTION:

T01711601 is a high gain [>21 dBi] antenna extremely easy to handle and deploy designed for Tactical applications in the NATO Band III+ frequency range [1,350-2,700MHz].

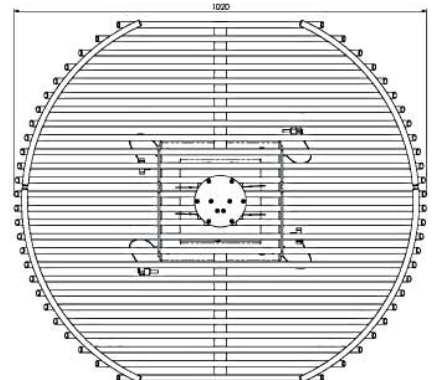
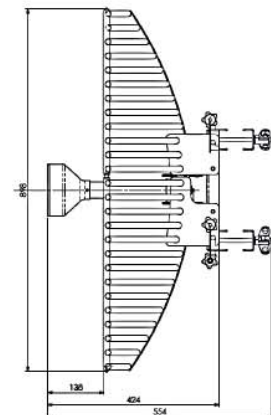
Telsa BIII grid antennas are one of the most fortunate and successful family of products in company history. With the first model launched in 2005, these antennas have been extremely well appreciated in the market thanks to their field-proven robustness, reliability, and handiness. Specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder in ABS radome. The brackets are suitable to rotate the polarization with special knobs. The grid reflector splits in two parts, as the brackets and the feeder are removable, so packing is the smallest possible. The grid antenna can be mounted on 40 to 80 mm diameter tubes.

SPECIAL FEATURES:

- Reflector splits in two parts & feeder is removable
- High gain [>21 dBi]
- Minimal wind load
- Horizontal & vertical polarization
- Easy to handle [only 9 Kg] with external package 1100x5200x320mm
- Simple assembly

Enviromental Specifications

Humidity	IEC 68-2-30 test Db
Rain	MIL STD 810C method 506.1 proc.II
Vibration	IEC 68-2-6 test Fc proc.A
Salt Spray	IEC 68-2-11 test Ka





TACTICAL GRID ANTENNA

T01711604

1350 ÷ 2690 MHz

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	1350 ÷ 2690
Impedance (Ω)	50
VSWR	≤ 2
Polarization	linear: horizontal or vertical
Gain (dBi)	@ 1350 MHz > 21 @ 2690 MHz > 26
HPBW (degree)	@ 1350 MHz 14
H-plane	@ 2690 MHz 7
HPBW (degree)	@ 1350 MHz 14
E-plane	@ 2690 MHz 7
Cross polarization (dB)	> 20 (typical 30)
Front-to-back ratio (dB)	> 25
Forward sidelobes ratio (dB)	0° ÷ 90° > 12 90° ÷ 180° > 20
Continuous max power (W)	50
Op. Temp. Range (°C)	-40 ÷ +55
Storage Temp. Range (°C)	-40 ÷ +90

Mechanical Specifications

Connector	4-11
Dimensions (mm)	1086×1030×439
Weight (Kg)	9
Colour	Olive Green RAL 6014
Materials	Aluminium Alloy Stainless Steel
Quick fastener mount	for mast \varnothing 50 mm
Wind Load @ 150 Km/h (N)	front 478 side 230

Enviromental Specifications

Humidity	IEC 68-2-30 test Db
Rain	MIL STD 810C method 506.1 proc.II
Vibration	IEC 68-2-6 test Fc proc.A
Salt Spray	IEC 68-2-11 test Ka

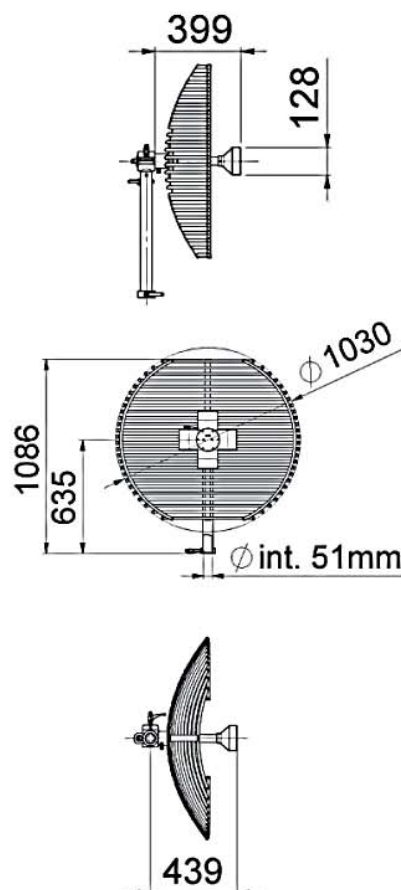
DESCRIPTION:

T01711604 is a high gain [>21 dBi] antenna extremely easy to handle and deploy designed for Tactical applications in the NATO Band III + frequency range [1,350÷2,700MHz].

Telsa BIII grid antennas are one of the most fortunate and successful family of products in company history. With the first model launched in 2005, these antennas have been extremely well appreciated in the market thanks to their field-proven robustness, reliability, and handiness. Specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder in ABS radome. The brackets are suitable to rotate the polarization with special knobs. T01711604 has been purposely designed to minimize deployment time: the antenna is pre-assembled on a short mounting tube. Field deployment is hence extremely simplified, as it is only required to fit such tube on the installation mast and tighten the fixing knob. The feeder and mounting tube are removable for shipping purposes. The grid antenna can be mounted on 40 to 80 mm diameter tubes.

SPECIAL FEATURES:

- Fastest deployment
- High gain [>21 dBi]
- Minimal wind load
- Horizontal & vertical polarization
- Easy to handle [only 9 Kg]
- Minimal assembly required
- Also available in sand color



T01711604-DS REV. 00
Date: 15/07/2011



We reserve the right to modify these data without any notice

Electrical Specifications

Frequency Band (MHz)	1350 ÷ 2690
Impedance (Ω)	50
VSWR	≤ 2
Polarization	linear: horizontal or vertical
Gain (dBi)	@ 1350 MHz > 21 @ 2690 MHz > 26
HPBW (degree) H-plane	@ 1350 MHz 14 @ 2690 MHz 7
HPBW (degree) E-plane	@ 1350 MHz 14 @ 2690 MHz 7
Cross polarization (dB)	>20 (typical 30)
Front-to-back ratio (dB)	> 25
Forward sidelobes ratio (dB)	0° ÷ 90° > 12 90° ÷ 180° > 20
Continuous max power (W)	50
Op. Temp. Range (°C)	-40 ÷ 55
Storage Temp. Range (°C)	40 ÷ 90
Lightning Protection	DC grounded

Mechanical Specifications

Connector	4-11
Dimensions (mm)	1086×1030×439
Weight (Kg)	9
Colour	Sand Desert RAL 1001
Materials	Aluminium Alloy Stainless Steel
Quick fastener mount	for mast Ø 50 mm
Wind load @ 150 Km/h (N)	front 478 side 230

DESCRIPTION:

T01711605 is a high gain [>21 dBi] antenna extremely easy to handle and deploy designed for Tactical applications in the NATO Band III+ frequency range [1,350-2,700MHz].

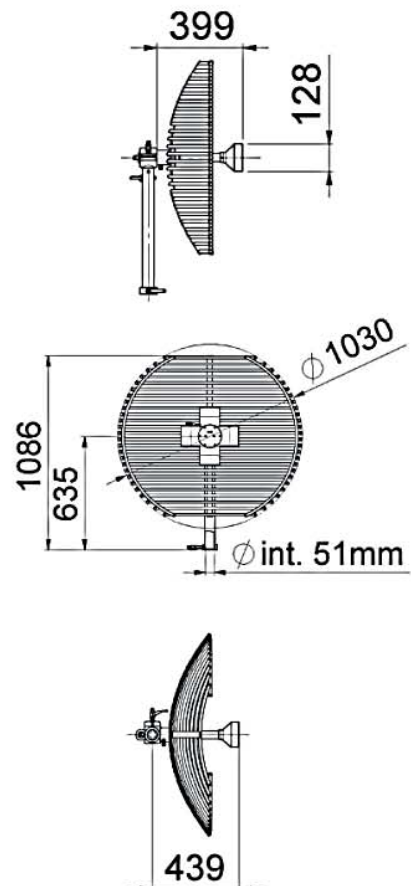
Telsa BIII grid antennas are one of the most fortunate and successful family of products in company history. With the first model launched in 2005, these antennas have been extremely well appreciated in the market thanks to their field-proven robustness, reliability, and handiness. Specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder in ABS radome. The brackets are suitable to rotate the polarization with special knobs. T01711604 has been purposely designed to minimize deployment time: the antenna is pre-assembled on a short mounting tube. Field deployment is hence extremely simplified, as it is only required to fit such tube on the installation mast and tighten the fixing knob. The feeder and mounting tube are removable for shipping purposes. The grid antenna can be mounted on 40 to 80 mm diameter tubes.

SPECIAL FEATURES:

- Fastest deployment
- High gain [>21 dBi]
- Minimal wind load
- Horizontal & vertical polarization
- Easy to handle [only 9 Kg]
- Minimal assembly required
- Also available in olive-green color

Enviromental Specifications

Humidity	IEC 68-2-30 test Db
Rain	MIL STD 810C method 506.1 proc.II
Vibration	IEC 68-2-6 test Fc proc.A
Salt Spray	IEC 68-2-11 test Ka





HIGH GAIN GRID ANTENNA

1350 ÷ 2700 MHz

T01711607

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	1350 ÷ 2700
Impedance (Ω)	50
VSWR	≤ 1.9
Polarization	linear: horizontal or vertical
Gain (dBi)	@ 1350 MHz > 23 @ 2700 MHz > 28
HPBW (degree) H-plane	@ 2000 MHz 6.5
HPBW (degree) E-plane	@ 2000 MHz 6.5
Cross polarization (dB)	> 25 (typical 30)
Front-to-back ratio (dB)	≥ 30
	0° ÷ 20° > 15
Forward sidelobes ratio (dB)	20° ÷ 115° > 25 115 ÷ 180° > 30
Continuous max power (W)	200
Op. Temp. Range (°C)	-40 ÷ +70
Storage Temp. Range (°C)	-40 ÷ +90
Lightning Protection	DC grounded

DESCRIPTION:

T01711607 is the Highest gain [>23 dBi] version of Telsa grid antennas for Tactical applications in the NATO Band III+ frequency range [1,350÷2,700 MHz]. With undisputed standards of robustness, reliability, and handiness, this antenna has been specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder in ABS radome. The brackets are suitable to rotate the polarization with special knobs. The grid reflector splits in two parts, as the brackets and the feeder are removable, so packing is the smallest possible. The grid antenna can be mounted on 40 to 80 mm diameter tubes.



SPECIAL FEATURES:

- Reflector splits in two parts & feeder is removable
- High gain [>23 dBi]
- Minimal wind load
- Horizontal & vertical polarization
- Easy to handle
- Simple assembly

Mechanical Specifications

Connector	N f
Dimensions (mm)	1500×1400×480
Weight (Kg)	13
Colour	Nato green IR STANAG 2338
Materials	Aluminium Alloy Stainless Steel
Mounting by brackets	on pole Ø 40 ÷ 80 mm
Wind load @ 160 Km/h (N)	front 970

Enviromental Specifications

Humidity	EIC 68-2-30 test Db
Rain	MIL STD 810C method 506.1 proc.II
Vibration	IEC 68-2-6 test Fc proc.A
Salt Spray	IEC 68-2-11 test Ka

TACTICAL ANTENNAS

T01711607-DS REV. A0
Date: 15/07/2011



We reserve the right to modify these data without any notice

Electrical Specifications

Frequency Band (MHz)	4400 ÷ 5000
Impedance (Ω)	50
VSWR	< 1.5
Polarization	linear: vertical/horizontal
Gain (dBi)	> 29
HPBW (degree) H Plane	4.5
HPBW (degree) E Plane	4.5
Front to Back Ratio (dB)	> 30
Cross Polarization (dB)	>20(typical 30)
Forward Sidelobes Ratio (dB)	0°÷90° > 15 90°÷180° > 20
Continuous Max Power (W)	50
Op. Temp. Range (°C)	-40 ÷ +70
Storage Temp. Range (°C)	-40 ÷ +90
Lightning Protection	DC grounded

Mechanical Specifications

Connector	N f
Dimensions (mm)	1020 x 898 x 554
Weight (Kg) excluded brackets	< 6
Wind Load @ 150 Km/h (N)	Front 480 Side 230
Colour	Olive Green RAL 6014
Materials	Aluminium Alloy Stainless Steel
Mounting	on pole Ø 40÷80 mm

DESCRIPTION:

T01712003 is a high gain [>29 dBi] grid antenna, designed for point to point Tactical radio link in the NATO Band IV frequency range [4.4-5 GHz].

Extremely easy to handle and deploy, this BIV antenna is the natural evolution of the fortunate designs of Telsa BII and BIII+ grid antennas. The parabolic reflector has been realized as a grid of aluminium round bars to minimize wind load and weight. This, coupled with a robust design, allows the antenna to operate unaffectedly also under 200 Km/h winds.

Specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder (removable) in Abs radome. Installation is extremely rapid and can be performed manually by tightening few knobs.

Finally, the antenna is suitable to be used in both horizontal or vertical polarization, which can be rotated at any time with minimal effort.

SPECIAL FEATURES:

- High gain [>29 dBi]
- Minimal wind load
- Horizontal or vertical polarization
- Withstands 200 Km/h winds
- Also available in sand color

Enviromental Specifications

Humidity	EIC 68-2-30 test Db
Rain	MIL STD 810C method 506.1 proc.II
Vibration	IEC 68-2-6 test Fc proc.A
Salt Spray	IEC 68-2-11 test Ka



Electrical Specifications

Frequency Band (MHz)	4400 ÷ 5000
Impedance (Ω)	50
VSWR	< 1.5
Polarization	linear: vertical/horizontal
Gain (dBi)	29 ÷ 30
HPBW (degree) Vertical Plane	5.0 ± 1
HPBW (degree) Horizontal Plane	5.0 ± 1
Side Lobe Suppression (dB)	> 20
Front to Back Ratio (dB)	> 35
Cross Polarization (dB)	≥ 30
Continuous Max Power (W)	20 @ 25°C
Op. Temp. Range (°C)	-20 ÷ +55
Lightning Protection	DC grounded

Mechanical Specifications

Connector	N f
Colour	RAL 6014
Dimensions (mm)	Ø 800
Antenna Weight (Kg)	7.3
Wind Load @ 150 Km/h (N)	450
Environmental Tests according to	ETSI 300-019-2

DESCRIPTION:

T01712005 is a high gain [>29 dBi] antenna extremely easy to handle and deploy, designed for Tactical applications in the NATO Band IV frequency range [4.4-5 GHz].

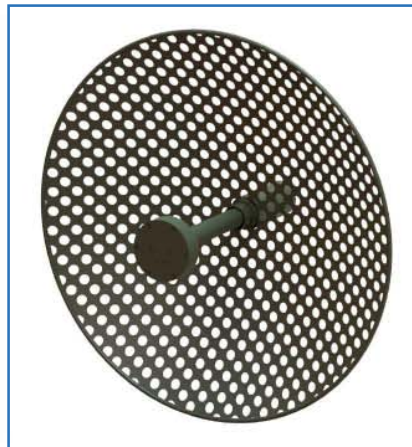
This BIV antenna is the natural evolution of the fortunate designs of Telsa BII and BIII+ grid antennas. To guarantee the best match of robustness, low wind area, and electrical performances at this high operational frequency, the standard grid reflector has been replaced by a pierced dish with 80 cm diameter.

Specially designed for field use: the grid reflector is coated in anti-corrosive paint; the brackets in galvanized and painted steel and the feeder (removable) in ABS radome. Installation is extremely rapid and can be performed manually by tightening few connections.

No need to physically reach the antenna to change polarization: horizontal-vertical polarization are rotated by means of an electric switch powered through the DC-bias.

SPECIAL FEATURES:

- Low wind-load
- Fastest deployment
- High gain [>29 dBi]
- Minimal wind load
- Electrical switch to change polarization
- Minimal assembly required
- Also available in sand color



Accessories:

- Bracket for Pole Ø 40 ÷ 80 mm
- Bracket for Radio Link
- Adapter Nf - UDR 48
- Coaxial cable Nm - Nm

Electrical Specifications

Frequency Band (MHz)	100 ÷ 1300
Impedance (Ω)	50
VSWR	< 2
Polarization	vertical
Gain (dBi)	2
Power (W CW)	200
Elevation coverage	80° ± 10°
Azimuth coverage	omni ± 2 dB
Op. Temp. Range (°C)	-40 ÷ 70
Storage Temp. Range (°C)	-50 ÷ 85

Mechanical Specifications

Connector	Nf
Dimensions (mm)	Ø 150 x 570
Weight (Kg)	~ 5
Colour	FED STD 595 N°26307 dark grey
Materials	Aluminum
Wind Load (N) @ 150 Km/h	30

Environmental Specifications

N1 JSS 55555	
Humidity	MIL-STD-810F method 507.4
Vibration	MIL-STD-810F method 514.5
Salt spray	MIL-STD-810F method 509.4
Temperature Range	MIL-STD-810F methods 501.4 & 502.4

DESCRIPTION:

This very wide band antenna in vertical polarization, with its compact design [15 x 57cm] and minimal wind-load, is optimized for transmission and reception purposes in the field of mobile and semi-stationary communications.

T01913001 is a very broad band antenna, covering not only the VHF and UHF bands but also the intermediate bands used in maritime applications. This, coupled with a very rugged & salt-fog resistant construction, makes this antenna the ideal choice for use on ships and in other harsh environments.

SPECIAL FEATURES:

- Very broadband
- Very compact size
- High suppression of skin currents
- Filled-in vertical radiation pattern
- High protection against lightning strokes in the vicinity
- Sturdy design
- Isolated from salt-fog
- Minimal wind load
- Can be used on ships





MANPACK ANTENNA

30 ÷ 512 MHz

T01101802

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	30 ÷ 512
Impedance (Ω)	50
VSWR	< 3.5
Polarization	vertical
Gain (dBi)	- 15 ÷ 0
Elevation coverage	$\lambda/4$ monopole
Azimuth coverage	omni \pm 1.5 dB
Power (W CW)	20
Op. Temp. Range ($^{\circ}\text{C}$)	- 40 ÷ 70
Storage Temp. Range ($^{\circ}\text{C}$)	- 50 ÷ 85
Lightning Protection	DC grounded

Mechanical Specifications

Connector	TNC M
Dimensions (mm)	
Length	335
Radome diameter	\varnothing 18
Weight (g)	< 97
Radome	PTU UV Resistant
Mounting	Radio Connector
Waterproof Suitable	

DESCRIPTION:

Manpack antenna designed for use with handheld radios. This family of antennas features good electrical performances and unchallenged physical roughness, with perfect mechanical and environmental properties. These flexible rubber antennas are realized with a special coating of heat-shrinkable tube with silicone layer. Various alternative designs may be provided, featuring different connectors or customized mechanical and electrical features.



MANPACK ANTENNAS

T01101802-DS REV. A2
Date: 20/01/2012



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MANPACK ANTENNA

500 ÷ 2000 MHz

T01103501

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	500 ÷ 2000
Impedance (Ω)	50
VSWR	< 3.5
Polarization	vertical
Gain (dBi)	- 3 ÷ 2
Elevation coverage	$\lambda/4$ monopole
Azimuth coverage	omni ± 1.5 dB
Power (W CW)	20
Op. Temp. Range ($^{\circ}\text{C}$)	- 40 ÷ 70
Storage Temp. Range ($^{\circ}\text{C}$)	- 50 ÷ 85
Lightning Protection	DC grounded

Mechanical Specifications

Connector	TNC M
Dimensions (mm)	
Length	225
Radome diameter	$\varnothing 20$
Weight (g)	< 200
Radome	PTU UV Resistant
Mounting	Radio Connector
Waterproof Suitable	

DESCRIPTION:

Manpack antenna designed for use with handheld radios. This family of antennas features good electrical performances and unchallenged physical roughness, with perfect mechanical and environmental properties. These flexible rubber antennas are realized with a special coating of heat-shrinkable tube with silicone layer. Various alternative designs may be provided, featuring different connectors or customized mechanical and electrical features.





FLEX ANTENNA (347 / 395 / 445)

FLEX 347
FLEX 395
FLEX 445

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

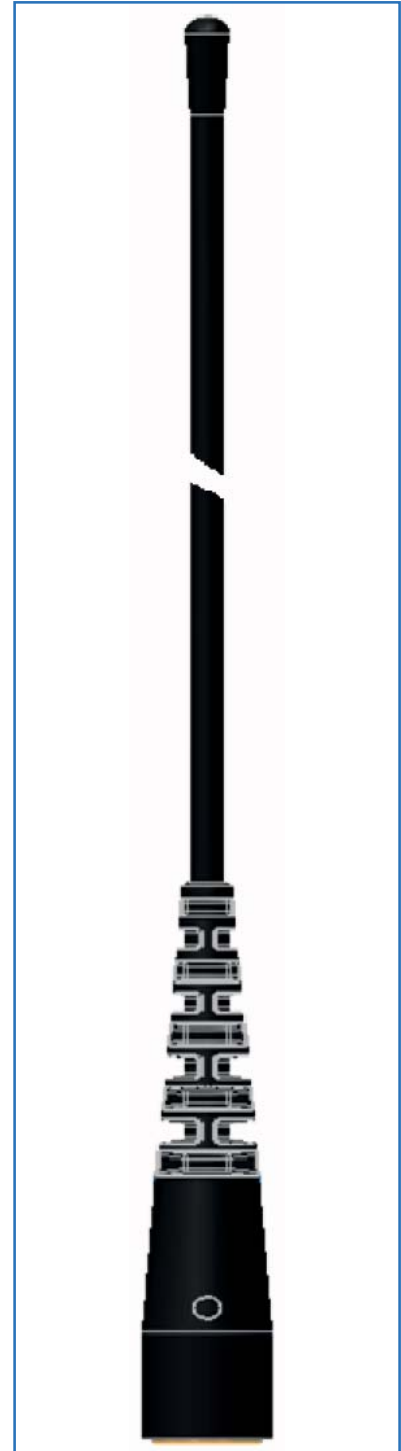
TACTICAL

Electrical Specifications

Type	$\lambda/4$ monopole
Frequency Band (MHz)	325 ÷ 370 370 ÷ 420 420 ÷ 470
Input impedance (Ω)	50
V.S.W.R.	< 2.2 : 1
Maximum rated RF power (W)	20
Gain	0 dBd
Polarization	vertical

Mechanical Specifications

Lenght	abt. 222 mm abt. 188 mm abt. 164 mm
Net weight (g)	abt. 20
Whip material	Plaited steel
Connector material	nikel-plated brass
Working Temperature ($^{\circ}\text{C}$)	-35 ÷ +70
Storage Temperature ($^{\circ}\text{C}$)	-40 ÷ +70
Vibration not Operating (with radio)	MIL-STD-810F, Method 514.5, procedure I
Drop Not Operating (with radio)	MIL-STD-810F, Method 516.5, procedure IV



MANPACK ANTENNAS

Electrical Specifications

Frequency Band (MHz)	225 ÷ 400
Impedance (Ω)	50
VSWR	1.5
Polarization	linear: vertical or horizontal
Gain (dBi)	10
Pattern	
Horizontal Plane	62 ± 3
Vertical Plane (degree)	61 ± 4
Continuous Max Power (W)	> 200
Op. Temp. Range ($^{\circ}\text{C}$)	- 40 ÷ 70
Lightning Protection	DC grounded

Mechanical Specifications

Connector	Nf
Dimensions (mm)	750x750x340
Colour	RAL 6014 (olive green)
Weight (Kg)	~ 16
Wind Load @ 150 Km/h (N)	40
Material	Aluminum
Mounting	on pole \varnothing 40 ÷ 120 mm

DESCRIPTION:

Broadband UHF Panel Antenna with 60° sectorial pattern in both horizontal and vertical plane. Coated in anti-corrosive paint and suitable to be mounted on tower sides or on masts, this antenna has been optimized for harsh environments and military and maritime applications.

Preeminent feature of this antenna is the possibility to connect more panels around a tower and achieve omnidirectional patterns, as well as many asymmetric or higher-gain configurations. This is typically extremely convenient when many antennas are already installed on a tower, and only available space for further antennas is on tower side, and onboard ships, where often antennas must be mounted on masts [see T02240602 for standard mast shipboard solution].

SPECIAL FEATURES:

- Broadband: 225÷400 MHz
- Suitable for maritime applications
- Polarization: Vertical or Horizontal
- Sectorial Pattern: 60°
- Gain: 10 dBi
- Low Wind Area
- Suitable to form omnidirectional arrays



Electrical Specifications

Frequency Band (MHz)	225 ÷ 400
Impedance (Ω)	50
Relative Bandwidth -3dB (%)	0.6
Return Loss (dB) into $f_0 \pm 180$ KHz band	> 15
Insertion Loss (dB) @ room temperature	≤ 7
Attenuation (dB) @ ± 4 MHz	> 30
Attenuation (dB) @ ± 10 MHz	> 55
Distortion @ 10 dBm	3% with 80% AM mod.
Max RF input CW (dBm)	15
Tuning time (μ s)	< 50
Power Supply (V_{DC})	28
Current consumption (mA)	< 300
Operating Temp. Range ($^{\circ}$ C)	0 ÷ 50

Mechanical Specifications

RF Connectors	Nf
Signal and power supply connectors	Sub D 25 f
Dimensions (mm)	150 × 150 × 300
Weight (Kg)	5.3
Colour	Aluminium

Environmental Specifications

Humidity	MIL-STD-810F method 507.4
Vibration	MIL-STD-810F method 514.5
EMI/EMC	MIL-STD-461D
Temperature Range	MIL-STD-810F methods 501.4 & 502.4

DESCRIPTION:

T05000605 is a UHF Passband Agile Filter designed for frequency hopping applications in the NATO Saturn standard allowing for tuning across the whole operation range in less than 50 microseconds. This system is intended for low power applications (max 15 dBm) and optimized to exhibit exceptional selectivity performances.

The low power agile filter is designed for insertion in the transmission chain of the radio, specifically to be placed before the power amplifier where relatively high losses can be balanced by adjusting the gain. To account for the high level of integration with customer radios typically needed, this product has been purposely designed with the aim of facilitating customization of a wide array of mechanical and electrical features. Also the proprietary protocol of the electronic board is fully adjustable to grant seamless integration into customer designs.

Given the extremely broad functioning band, each agile filter is realized using a bank of filters, each operating on different sub-bands. Tuning is performed by means of varactor diodes loading the coaxial transmission line, and the resonant frequency is controlled by varying their intrinsic capacity.

With Attenuation > 30 dB at ± 4 MHz of c.f. across the whole UHF band, Telsa agile filter represents an authentic unique of its kind with no close alternative in the market.

High power [up to 40 dBm] – and correspondingly less selective – versions of Agile Filter may also be provided at customer request. Please contact the factory for further information.

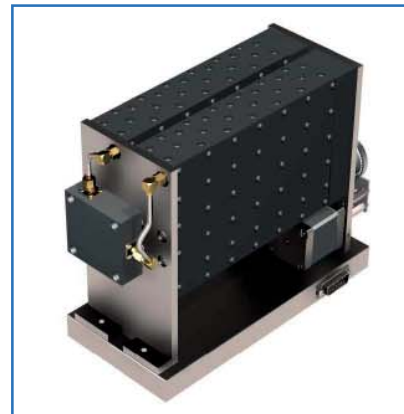


Electrical Specifications

Frequency Band (MHz)	390 ÷ 645
Min. Frequency Step (MHz)	2.5
Impedance (Ω)	50
Insertion Loss (dB)	< 2
In Band Ripple (dB)	0.7
TX/RX Isolation (dB)	> 70
TX/ANT & ANT/RX Isolation	> 60
VSWR	typical 1.7 maximum 2
Channel Spacing (MHz)	60
Center Freq. Variation (MHz) over temperature range	< ± 1.5
1dB passband (MHz) @ $f_0 = 390 \div 645$ MHz	20 ± 2
Rejection (dB) 60 MHz ÷ 2.5 GHz	> 60
Group Delay in passband (ns)	± 25
Power Supply (V)	motors $28 \pm 5\%$ control logic $5 \pm 5\%$
Current Consumption	motors (A) ≤ 2.1 control logic (mA) 50
Op. Temp. Range ($^{\circ}\text{C}$)	-40 ÷ 80

DESCRIPTION:

Automatic Duplexer designed for Tactical radio-link applications in the 390÷645 MHz frequency range. The duplexer is composed of two identical bandpass filters combined by a circulator, where each filter features six resonant cavities. Tuning is realized through stretch lines which are fixed on a bar moved by a high-precision step motor. The step motor and tuning system are controlled electronically by a control board with RS232 or RS485 interface. In the remote event of automatic tuning failure, the unit can be manually tuned with a simple screw driver. The protocol of the electronic board is proprietary and fully customizable to ensure seamless compatibility with each customer radio. Compact and rugged mechanical design, extreme working temperature range [$-40^{\circ} \div 85^{\circ}$], and high reliability make these filters perfectly suitable for demanding tactical applications. Customized mechanical features and electrical specifications may be provided.



Mechanical Specifications

RF Connectors	SMA f
Signal Connector	DIN 15 pin
Dimensions (mm)	246 × 112 × 186
Weight (Kg)	4.3
Outside Finishing	TBD

Enviromental Specifications

Humidity	MIL-STD810D 507.2 III
Low Pressure altitude	MIL-STD810D 500.2 II
Mechanical Vibrations	MIL-STD810C 514.2-6 VIII Y
Mechanical Shock	MIL-STD810C 516.2-1 I



DUPLEXER TUNABLE FILTER WITH ELECTRONIC BOARD

610 ÷ 960 MHz

T06211503

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	610 ÷ 960
Impedance (Ω)	50
Insertion Loss (dB)	≤ 2
Tx/Rx Isolation (dB)	≥ 80
Tx/Ant, Ant/Rx Isolation (dB)	≥ 70
Return Loss (dB)	≥ 9.5
Channel Spacing (MHz)	60
Center frequency variation over temperature range (MHz)	$< \pm 1.5$
-1 dB passband for $f_0 = 610 \div 960$ MHz (MHz)	≥ 23
-1 dB passband for $f_0 = 600 \div 610 / 960 \div 970$ MHz (MHz)	≥ 15
Rejection from 60MHz to 2.5GHz (dB)	> 60
Group Delay in passband (ns)	± 25
Power Supply for motors (V)	$28 \pm 5\%$
Power Supply for control logic (V)	$5 \pm 5\%$
Current Consumption for motors (A)	≤ 2.1
Current Consumption for control logic (mA)	50
Humidity	MIL-STD810D 507.2 III
Low Pressure (altitude)	MIL-STD810D 500.2 II

DESCRIPTION:

Automatic Duplexer designed for Tactical radio-link applications in the NATO Band II frequency range [610-690 MHz].

The duplexer is composed of two identical bandpass filters combined by a circulator, where each filter features six resonant cavities. Tuning is realized through stretch lines which are fixed on a bar moved by a high-precision step motor. The step motor and tuning system are controlled electronically by a control board with RS232 or RS485 interface. In the remote event of automatic tuning failure, the unit can be manually tuned with a simple screw driver. The protocol of the electronic board is proprietary and fully customizable to ensure seamless compatibility with each customer radio.

Compact and rugged mechanical design, extreme working temperature range $[-40^\circ \div 85^\circ]$, and high reliability make these filters perfectly suitable for demanding tactical applications. Customized mechanical features and electrical specifications may be provided.



Mechanical Specifications

RF connectors	female 24DV50-3-1
Signal connector	DIN 15 pin
Outside finishing	matt black epoxy paint
Rotation torque @ $-20^\circ\text{C} \div +85^\circ\text{C}$ (g*cm)	≤ 700
Rotation torque @ $-40^\circ\text{C} \div -20^\circ\text{C}$ (g*cm)	≤ 900
Radial force on the shaft (N)	2.5
Dimensions (mm)	294 × 91 × 194
Weight (Kg)	4.6
Mechanical vibrations	MIL-STD810C 514.2-6 VIII Y
Mechanical shock	MIL-STD810C 516.2-1 I

T06211503-DS REV. 00
Date: 25/01/2012



DUPLEXER TUNABLE FILTER

T06211301

1350 ÷ 1850 MHz

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	1350 ÷ 1850
Impedance (Ω)	50
Insertion Loss (dB)	< 2
Frequency range f_0 (MHz)	1364 ÷ 1836
Frequency guard range (MHz)	1338 ÷ 1862
1 dB passband to f_0 (MHz)	
in 1350÷1850 MHz	> 28
in 1338÷1850 MHz	> 20
in 1850÷1862 MHz	> 20
Return Loss in passband (dB)	≥ 9.5
TX/RX isolation for 65MHz channel spacing (dB)	≥ 75
Out of band rejection in (f_0 +65MHz) ÷ 3GHz (dB)	≥ 60
Power supply (W)	22 \pm 5%
Storage Temperature Range ($^{\circ}$ C)	- 50 ÷ +90
Δf_0 variation @ Temperature Range (MHz)	< \pm 2.6
Max. Continuous Power (W)	30
Group delay in passband (ns)	\pm 25
Current consumption (A)	≤ 2.6
Electrical repeatability	200 000
Humidity	MIL-STD810D 507.2 III
Low pressure (altitude)	MIL-STD810D 500.2 II

DESCRIPTION:

Automatic Duplexer designed for Tactical radio-link applications in the NATO Band III frequency range [1350-1850 MHz].

The duplexer is composed of two identical bandpass filters combined by a circulator, where each filter features six resonant cavities. Tuning is realized through stretch lines which are fixed on a bar moved by a high-precision step motor. The step motor and tuning system are controlled electronically by a control board with RS232 or RS485 interface. In the remote event of automatic tuning failure, the unit can be manually tuned with a simple screw driver. The protocol of the electronic board is proprietary and fully customizable to ensure seamless compatibility with each customer radio.

Compact and rugged mechanical design, extreme working temperature range [-40° ÷ 85°], and high reliability make these filters perfectly suitable for demanding tactical applications. Customized mechanical features and electrical specifications may be provided.



Mechanical Specifications

RF Connectors	SMA f
Outside finishing	matt black epoxy paint
Rotation torque @ -20° C ÷ $+85^{\circ}$ C (gr*cm)	≤ 700
Rotation torque @ -40° C ÷ -20° C (gr*cm)	≤ 900
Radial force on the shaft (N)	2.5
Dimensions (mm)	244 x 88 x 113.5
Weight (Kg)	2.2
Mechanical vibrations	MIL-STD810C 514.2-6 VIII Y
Mechanical shock	MIL-STD810C 516.2-1 I

T06211301-DS REV. 00
Date: 25/01/2012



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DUPLEXER TUNABLE FILTER

1350 ÷ 2690 MHz

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

T06211607
T06211613
T06211615

TACTICAL

Electrical Specifications

Frequency band (MHz)	1350 ÷ 2690
Impedance (Ω)	50
Tuning Time (s) $T > 0^\circ\text{C}$	< 24
Max Continuous Power (W)	50
Op. Temp. Range ($^\circ\text{C}$)	-40 ÷ 85
Protocol TX/RX no handshake 3.3 V signal level	RS232 (ref. T06211610-ICD)

General Specifications

VSWR	T06211607 @ $f_0 \pm 14$ MHz	< 2
	T06211613 @ $f_0 \pm 11$ MHz	< 2
	T06211615 @ $f_0 \pm 20$ MHz	< 2
Insertion Loss (dB)	T06211607	< 2.5
	T06211613 RX	≤ 2.7
	T06211613 TX	≤ 3
	T06211615 RX	≤ 2.3
1dB Passband (MHz) @ f_0	T06211607	28 ÷ 34
	T06211613	27 ÷ 46
	T06211615	40 ÷ 60
Attenuation (dB)	T06211607 ANT to RX	> 55
	T06211607 TX to ANT	> 55
	T06211613 ANT to RX	> 50
	T06211613 TX to ANT	> 50
TX to RX Isolation (dB)	T06211615 ANT to RX	> 50
	T06211615 TX to ANT	> 50
	T06211607 for 65 MHz channel spacing	≥ 75
	T06211613 for 75 MHz channel spacing	> 75
Out of band Rejection (dB)	T06211615 for 85 MHz channel spacing	> 70
	T06211615 for 100 MHz channel spacing	≥ 80
Out of band Rejection RX (dB)	T06211607 ($f_0 + 65\text{MHz}$) ÷ 3 GHz	≥ 60
Out of band Rejection TX (dB)	T06211613 ($f_0 + 75\text{MHz}$) ÷ 3 GHz	> 50
	T06211615 ($f_0 + 85\text{MHz}$) ÷ 3 GHz	> 50
Out of band Rejection TX (dB)	T06211613 ($f_0 + 75\text{MHz}$) ÷ 3 GHz	> 50
	T06211615 ($f_0 + 85\text{MHz}$) ÷ ($f_0 + 3\text{GHz}$)	> 45

DESCRIPTION:

Automatic Duplexers designed for Tactical radio-link applications in the NATO Band III+ frequency range [1350-2690 MHz]. Each version has been optimized to accommodate the specific demands of different radio manufacturers in terms of required width of the passing-band and mechanical constraints. The duplexer is composed of two identical bandpass filters combined by a circulator, where each filter features six resonant cavities. Tuning is realized through stretch lines which are fixed on a bar moved by a high-precision step motor. The step motor and tuning system are controlled electronically by a control board with RS232 or RS485 interface. In the remote event of automatic tuning failure, the unit can be manually tuned with a simple screw driver. The protocol of the electronic board is proprietary and fully customizable to ensure seamless compatibility with each customer radio. Compact and rugged mechanical design, extreme working temperature range [-40° : +85°], and high reliability make these filters perfectly suitable for demanding tactical applications. Customized mechanical features and electrical specifications may be provided.

Group Delay in Passband (ns)	T06211607	± 25
	T06211613	± 35
	T06211615	± 35
f_0 variation with temperature (MHz)	T06211607	$< \pm 2.6$
	T06211613	± 1
	T06211615	± 1
Power Supply (V) for	motors	48 ± 1.5
	control logic	$15 \pm 10\%$
Current Consumption for	motors (A)	< 2 (peak)
	control logic (mA)	< 50
Dimensions (mm)	T06211607	213x168x124
	T06211613	225x180x120
	T06211615	225x180x120
Mounting	T06211607	4x $\varnothing 2.9\text{mm}$ holes
	T06211613	4x#10-32UNF-2B L25 screws
	T06211615	4x#10-32UNF-2B L25 screws
Weight (Kg)	T06211607	5
	T06211613	6.2
	T06211615	6.2



Data & Power connector

Samtec 40 pin	FTSH-120-01-LM-DV-EJ or equivalent
Pin number	Description
1, 4, 7, 8, 9 - 13 (odd numbers)	Signal GND
2	Serial Data to the filter
3	Serial Data from the filter
5 - 6	Spare (unused)
10 - 14 (even numbers)	+15 V
15 - 39 (odd numbers)	Stepper Motor GND
16 - 40 (even numbers)	+48 V

Mechanical Specifications

RF connectors	SMA f
Storage Temp. Range ($^\circ\text{C}$)	-55 ÷ +90
Humidity	MIL-STD810E 507.3 III
Low pressure, Altitude, Storage	MIL-STD810E 500.3 I
Temperature Shock	MIL-STD810E 503.3
Vibrations	MIL-STD810F 514.5 I 20
Bench handling	MIL-STD810E 516.4 VI
Functional shock	MIL-STD810E 516.4 I
Transit drop	MIL-STD810F 516.5 IV

T06211607-DS REV. 00
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BAND IV DUPLEXER DUAL MODE (FDD/TDD)

4.4 ÷ 5 GHz

T06212006

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Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

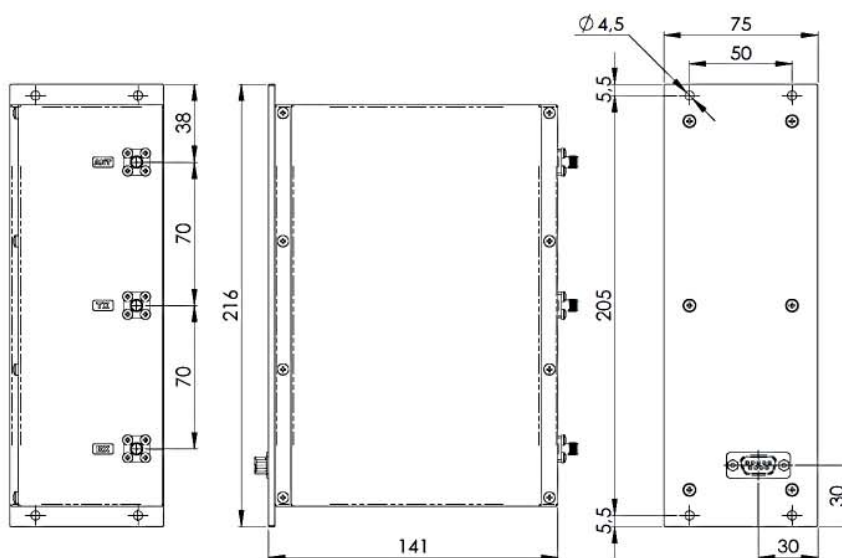
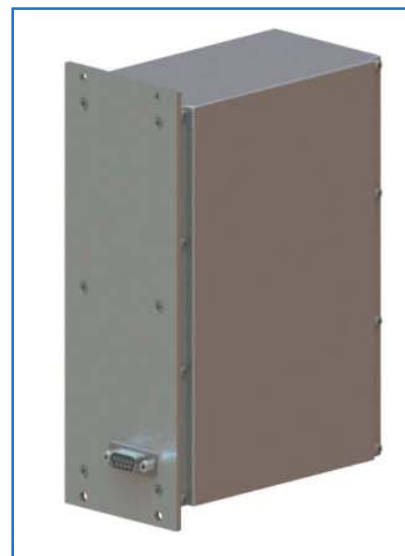
Mode of Selection	FDD or TDD
Frequency Band (MHz)	4400 ÷ 5000
Impedance (Ω)	50
Δf Variation @ Temp. Range MHz (ppm)	4
Tuning Time (s)	< 10
Interface	LVTTTL
Protocol	RS232/485
Power Supply (Vdc)	24
Current Consumption (A)	≤ 1
Continuous Max Power (W)	50
Op. Temp. Range ($^{\circ}\text{C}$)	-30 ÷ 85
Storage Temp. Range ($^{\circ}\text{C}$)	-55 ÷ 90

FDD Section

1 dB Bandwidth (MHz)	100
Channel Spacing (MHz)	120
Insertion Loss @ f_0 (dB)	TX to Antenna ≤ 1.5 Antenna to RX ≤ 1.5
VSWR	≤ 1.5
TX to RX Isolation (dB)	> 70
Out of Band Rejection (dB)	> 80

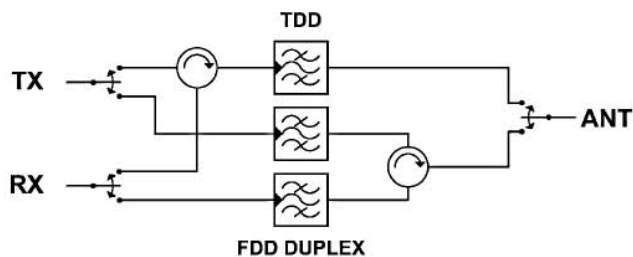
TDD Section

1 dB Bandwidth (MHz)	800
Insertion Loss @ f_0 (dB)	TX to Antenna ≤ 1.5 Antenna to RX ≤ 1.5
VSWR in the Whole Band	≤ 1.5
TX to RX Isolation (dB)	> 20
Attenuation @ 2.8 GHz (dB)	> 70



Mechanical Specifications

RF Connector	SMA f
Signal Connector	SUB D 9 f
Dimensions (mm)	216 x 141 x 75
Weight (Kg)	4
Environmental	MIL STD 810F



T06212006-DS REV. A2
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Electrical Specifications

Frequency Band (MHz)	610 ÷ 960
Impedance (Ω)	50
Insertion Loss (dB)	< 2
Return Loss (dB)	≥ 10
Attenuation (dB) @ $f_0 \pm 30$ MHz	> 60
1 dB Passband (MHz) for $f_0 = 610 \div 960$ MHz	≥ 23
Group Delay (ns) in Passband	± 25
Max. Continuous Power (W)	50
Op. Temp. Range ($^{\circ}\text{C}$)	-40 ÷ 85

Mechanical Specifications

RF Connectors	N f
Outside finishing	matt black epoxy paint
Dimensions (mm)	280 × 125 × 85
Weight (Kg)	1.2
Mechanical Vibrations	MIL-STD810C 514.2-6 VIII Y
Mechanical Shock	MIL-STD810C 516.2-1 I
Humidity	MIL-STD810D 507.2 III
Low Pressure, Altitude	MIL-STD810D 500.2 II

DESCRIPTION:

Manual Bandpass filter designed for Tactical radio-link applications in the NATO Band II frequency range [610-960 MHz]. The filter is pre-calibrated across the entire operating frequency range and tuning may be performed by means of a simple knob. This unit is hence ideally suited for applications where expert fine-tuning of filters is not necessary, but communication frequency is not fixed and could be controlled also by non-specialist personnel.

This filter is characterized by good values of insertion and return loss and by extremely constant passband across the whole frequency range covered.

Compact and rugged mechanical design, extreme working temperature range [-40° : +85°], and high reliability make these filters perfectly suitable for demanding tactical applications.

Contact the factory for customized mechanical features and electrical specifications.





BAND PASS FILTER BIII

T05161601

1350 ÷ 2700 MHz

TEDAP offers a very wide range of wireless products.
Our products can be tailored according to the customer's need.

TACTICAL

Electrical Specifications

Frequency Band (MHz)	1350 ÷ 2690
Impedance (Ω)	50
Insertion Loss (dB)	< 2
VSWR in $f_0 \pm 12$ MHz	< 2
Attenuation (dB) @ $f_0 \pm 30$ MHz	> 50
1 dB Passband (MHz)	26 ÷ 36
Group Delay (ns) in Passband	± 35
Max. Continuous Power (W)	50
Op. Temp. Range ($^{\circ}\text{C}$)	-40 ÷ 85

Mechanical Specifications

RF Connectors	N f
Outside finishing	matt black epoxy paint
Dimensions (mm)	230 × 230 × 75
Weight (Kg)	1.6
Mechanical Vibrations	MIL-STD810C 514.2-6 VIII Y
Mechanical Shock	MIL-STD810C 516.2-1 I
Humidity	MIL-STD810D 507.2 III
Low Pressure, Altitude	MIL-STD810D 500.2 II

DESCRIPTION:

Manual Bandpass filter designed for Tactical radio-link applications in the NATO Band III+ frequency range [1350-2700 MHz]. The filter is pre-calibrated across the entire operating frequency range and tuning may be performed by means of a simple knob. This unit is hence ideally suited for applications where expert fine-tuning of filters is not necessary, but communication frequency is not fixed and could be controlled also by non-specialist personnel.

This filter is characterized by good values of insertion and return loss and by extremely constant passband across the whole frequency range covered.

Compact and rugged mechanical design, extreme working temperature range [-40° : $+85^{\circ}$], and high reliability make these filters perfectly suitable for demanding tactical applications.

Contact the factory for customized mechanical features and electrical specifications.



T05161601-DS REV. A0
Date: 12/09/2011



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Europe is our business area



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