

Broadband > Cellular > In-Building > Mobile

# Latest and New **Antenna Designs**

**Leading Flat Panel Antennas** & RF Systems Manufacturer

MARS





## About MARS

MARS Antennas & RF Systems Ltd., established in 1994, is a world class leading manufacturer of antennas, RF solutions, and Research & Development based in Israel.

Mars has demonstrated capability to design and provide products with exceptional performance characteristics.

The Company has unsurpassed expertise in developing and manufacturing standard, as well as customized wide band high performance antennas.



MARS premises

MARS's expertise in developing and manufacturing of antennas based on printed circuit antennas called flat or Flat Panel Arrays allows them to meet the following certifications: ISO 9001, ISO 14001 and RoHS.

MARS owns an in-house internal anechoic chamber, which allows high quality product development and quality control.



MARS In-House Antenna Range 13.5x5 m

MARS offers its customers customized Antennas & RF Systems Solutions which is an integral part of customer's application development process. Some of MARS outstanding designs were the first in the market and are still uncontested.

MARS Key Customers: Proxim, Cisco, Airspan, Infinet Wireles, Ruckus, Aruba, Alcatel Lucent, Cambium, Juniper, Exalt, etc.

MARS is approved supplier to OEMs: Alvarion, Motorola, Motorola-Canopy, Ericsson, Proxim, Airaya, Mobile Access, Alcatel Lucent etc.

MARS Antennas installations provide reliable coverage in major airports, government facilities, and the hospital industry, etc.

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## **Client Commitment**

MARS Antennas & RF Systems is fully committed to addressing the needs of our diverse international client base. To meet this objective, we employ a methodology that integrates each client throughout the development lifecycle.

By encouraging client interaction and feedback at all stages of the development process, MARS Antennas & RF Systems ensures that each product is equipped with the most advanced technology, while meeting specific end-user requirements.

Our client commitment and proven track record have helped MARS Antennas & RF Systems earn a reputation for transforming unique, complex requirements into fully operational products – on time, on budget and on spec.

## **Quality Assurance at MARS**

MARS is ISO9001 and ISO14001 certified.

QA department monitors the development and manufacturing processes.

During the development process the QA audits the process, documentation and milestones. QA is expressed primarily in the prototype production authentication, testing, planning surveys and documentation control with specific attention to the documents production portfolio.

QA department production process supervision includes:

- Raw material and purchased accessories acceptance testing
- Testing process
- Final testing

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## Latest and New Designs

Specially designed for stadiums and arenas			
	<b>MA-WA22-DP14</b> 1700-2700 MHz 33°/33° <i>430 X 240 X 48 mm</i>	<u>1.7-2.2 GHz</u> 13dBi	<u>2.2-2.7 GHz</u> 14 dBi
	See page 36	Linear, Vertica	l & Horizontal
	MA-WA82220-DBDP14 698-960 MHz & 1700-2700 MHz 35°/35° PIM Certified	<u>698-960 MHz</u> V-pol: 12dBi H-pol: 13dBi	<u>1.7-2.7 GHz</u> V-pol: 13dBi H-pol: 13dBi
	800 X 600 X 110 mm See page 35	Vertical & I	Horizontal



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4 and 5 Polarizations MIMO Antenna 802.11ac standard applications approved				
MA-WA2455-QPMIMO Dual Band Quad Polarizations MIMO Antenna (305mm X 305mm X 15mm) See page 37	<u>5.15-5.875 GHz</u> 16dBi Vertical & Horizontal Pol	<u>2.3-2.7 GHz</u> 12 dBi Dual Slant ± 45°		
MA-WA55-4QP13 Quad Polarizations MIMO Antenna (200mm X 200mm X 33mm) See page 38		<mark>1 GHz</mark> 3 dBi & Dual Slant ± 45°		
MA-WA57-QP4MIMO19 Dual Band Quad Polarizations MIMO Antenna (370mm X 370mm X 40mm) See page 39	<u>4.9-5.15 GHz</u> 4 x 18 dBi Vertical, Horizontal & Dual Slant ± 45°	<u>5.15-6.425 GHz</u> 4 x 19 dBi Vertical, Horizontal & Dual Slant ± 45°		
MA-WA56-MIMO5-14 5 MIMO Antenna (305mm X 305mm X 15mm) See page 40	5 x 13	<u>1 GHz</u> 3.5 dBi Dual Slant ± 45°		
MA-WA55-QP4MIMO Quad Polarizations MIMO Antenna (305mm X 305mm X 15mm) See page 41		<b>9 GHz</b> 6 dBi & Dual Slant ± 45°		





PIM Certified Antenna				
	Stadium anten	na		
		800 X 600		
Multi E	Band In-Building / Oເ	utdoor ant	enna	
	<b>MA-CQ26-1X</b> 380 MHz – 6 GHz See page 184	380 MHz	<b>Q27-1X</b> 2 – 6 GHz age 185	<b>MA-WOLTE-DP1</b> 698 MHz – 6.5 GHz See page 191
	<b>MA- WOLTE</b> 698 MHz – 6.5 See page 189	GHz	80	<b>IA-CR26-2X</b> 6 MHz – 6 GHz See page 188

	MA- WO7402700-5	Gai	n
	Multi Band Omni Directional Base Station Antenna featuring stable and efficient performance of 4 or 6dBi of gain. (470mm X Dia.66mm)	740-960 MHz 4 dBi	<u>1710-2700 MHz</u> 6 dBi
Return	Covering 740-2700 MHz	Polariz	ation
	See page 145	Linear, V	rtical





## **Dual Polarization Omni Directional Antenna MA-WO25-DP10** 2.3-2.7 GHz **Dual Polarized** Vertical Polarization @ 9 dBi **OMNI** Directional Antenna Horizontal Polarization @10 dBi 640mm X 110mm (dia.) Vertical & Horizontal See page 42 4.9-5.9 GHz **MA-WO56-DP10 Dual Polarized** 4.9-5.1 GHz **OMNI** Directional Antenna Vertical @ 8dBi & Horizontal @ 10dBi 5.1-5.9 GHz @ 10dBi 365mm X 66mm (dia.) Vertical & Horizontal See page 43

# Cellular & Wi-Fi Dual Band & Dual Polarization Directional AntennaMA-WA82220-DBDP8<br/>GSM, LTE, UMTS, Wi-Fi<br/>Dual Band & Dual Pol<br/>Directional Antenna698 – 960 MHz &<br/>1.7 – 2.7 GHz698-960 MHz @ 8 dBi<br/>1.7-2.1 GHz @ 7dBi<br/>2.1-2.7 GHz @ 10 dBiSee page 44Vertical & Horizontal

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Horizontal Polarized OMNI Directional Antennas				
<b>MA-WO25-9H</b> Horizontal Polarized OMNI Directional Antenna 640mm X 76mm (dia.) See page 163	<u>2.3-2.7 GHz</u> 10dBi Linear, Horizontal			
MA-WO56-10H Horizontal Polarized OMNI Directional Antenna 315mm X 40mm (dia.) See page 177	<u>5.1-5.9 GHz</u> 10dBi Linear Horizontal			

Dual Polarized MIN	IO CPE Antennas
MA-WC25-DS16 Dual Slant Base Station Antenna - 65° (800mm X 225mm X 67mm) See page 75	<u>2.3-2.7 GHz</u> 2 x 16 dBi Dual Slant ± 45°
MA-WD25-DS15 Dual Slant Base Station Antenna - 90° (800mm X 225mm X 67mm) See page 76	<u>2.3-2.7 GHz</u> 2 x 15 dBi Dual Slant ± 45°





450-470 MHz OMNI Antenna				
	MA-WO46-2	Gain		
	OMNI Antenna 360mm X 26mm (Dia) Covering	2 dBi		
Covering 450-470 M		Polarization		
	450-470 MHz See page 227	Linear Vertical		

## 4.4-6.1 GHz Dual Polarization/Dual Slant Subscriber Antenna

	1	
	1	

MA-WA52-DP24 **Dual Polarization/Dual** Slant Subscriber Antenna (370mm X 370mm X 40mm) Covering 4.4-6.1 GHz See page 59

Gain	
24 ± 1 dBi	
Polarization	
Linear, Vertical & Horizontal	

6-7 GHz Dual Polarization Subscriber Antenna				
MA-WA65-DP19 Gain				
	Dual Polarization Subscriber Antenna	19 ± 1 dBi		
	(200mm X 200mm X 33mm)	Polarization		
	Covering 7-8 GHz			
	See page 69	Linear, Vertical & Horizontal		

7-8 GHz Dual Polarization Subscriber Antenna		
	MA-WA78-DP19N	Gain
	Dual Polarization Subscriber Antenna	19 ± 1 dBi
	(155mm X 155mm X 28mm)	Polarization
	Covering 7-8 GHz	Linear, Vertical & Horizontal
	See page 70	

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7.75-7.9 GHz Dual Polarization Base Station Antenna 90 <sup>0</sup>						
	MA-WD78-DP12	Gain				
	Dual Polarization Base Station Antenna 90 <sup>0</sup>	12 dBi				
	(155mm X 155mm X 28mm)	Polarization				
	Covering	Fold Ization				
	7.75-7.9 GHz					
		Linear, Vertical & Horizontal				
	See page 65					

10.15-11GHz Dual Polarization Subscriber Antenna							
MA-WA10-DP23	Gain						
Dual Polarization Subscriber Antenna	23 dBi						
(202mm X 202mm X 33mm)	Polarization						
Covering 10.15-11 GHz	Linear, Vertical & Horizontal						
See page 71							

10.15-10.7 GHz Dual Polarized Base Station Antenna, 90°						
MA-WD10-DP14	Gain					
90° Dual Polarized Base Station Antenna (200mm X 200mm X 33mm)	14 dBi					
Covering 10.15-10.7 GHz	Polarization					
See page 94	Dual Vertical & Horizontal					

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## 698 MHz – 6.6 GHz Multi Band Tri-Ports Dual Polarized Omni Antenna

		Port 1 (Linear, Horizontal)	Port 2 (Linear, Horizontal)	
	MA-WOLTE-DP2	1.7-2.7 GHz	4.4-6.6 GHz	
	Tri-Ports Multi Band	5 dBi	6 dBi	
	Omni Antenna	`	ear, Vertical)	
1 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Covering	•	98-960 MHz	
	698-6600 MHz	J-+ UDI @ 1.7-2.5		
	090-0000 10112	5.5 dBi @ 2.3-2.7 GHz		
	See page 204	-	.3-3.8 GHz .5- 6.6 GHz	

## Indoor/Outdoor LTE Multi Band Tri-Ports Omni Antenna

MA-WOLTE-3M1			Gai	n	
Tri-Ports Multi Band Omni Antenna Covering 698-6500 MHz	2 dBi 3-4 dBi 5 dBi 4 dBi 6 dBi	Port 1 & 2 @ 698-960 @ 1710-217 @ 2.3-2.7 @ 3.3-3.8 @ 4.9- 6.5	MHz 0 MHz GHz GHz GHz GHz	4 dBi @ 3.3-3.8 G	1Hz 6Hz 6Hz 6Hz
See page 190		F	Polariz	ation	
		L	inear, V	'ertical	

Multi-Band Dual Polarized Indoor/Outdoor Omni Antenna							
	MA-WOLTE-DP1		Polariza	ation - Hori	zontal		
	Multi-Band	2.3-2.7 GHz			4.9-5.875 GHz		
	Dual Polarized		5 dBi		5 dBi		
	Indoor/Outdoor	Polarization - Vertical					
and the second se	Omni Antenna	698-960	1.71-2.17	2.3-2.7	3.3-3.8	4.9-6.5	
	covering	MHz	GHz	GHz	GHz	GHz	
	698MHz-6.5GHz See page 191	4 dBi	5 dBi	5.5 dBi	7 dBi	7.5 dBi	

Multi-Band Indoor/Outdoor Omni Antenna								
	MA-CQ29-1X			Gain				
	Multi-Band Indoor/Outdoor Omni Antenna	380-806 MHz	806-960 MHz	1.7-2.5 GHz	2.5-2.7 GHz	3.3-3.7 GHz	4.9-6 GHz	
		1 (2*) dBi	4 dBi	5 dBi	5 dBi	6 dBi	6 dBi	
	covering 380MHz-6GHz	(*) Specifications for Ground Plate of 40 cm and up, or above a m surface, with a spacing of 35-45 mm.						
	See page 186	Polarization						
	See page 100		Linear, Vertical					

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-		
Gain 8 dBi		
Polariz Dual Pole Linear	zation <u>Dual Slant (opt.)</u> ± 45° (diamond shape)	
	Polariz Dual Pole	

	MA-WA25-DP9	Gain   8 ± 1 dBi   Polarization		
	Dual Polarization/Slant Subscriber (112mm X 112mm) covering 2.3-2.7 GHz See page 48			
		Dual Pole Linear Vertical & Horizontal	<u>Dual Slant (opt</u> ± 45° (diamond shape)	

High Gain/Size Ratio Dual Pole/Slant 3.6 GHz Subscriber Antenna							
	MA-WA36-DP11	Ga	ain				
	Dual Polarization/Slant Subscriber		11 dBi				
	(112mm X 112mm)	Polarization					
	covering 3.3-4.01 GHz		Dual Slant (opt.) ± 45° (diamond				
	See page 53	Vertical & Horizontal	shape)				

High Gain/Size Ratio Dual Pole/Slant 5 GHz Subscriber Antenna							
	MA-WA56-DP13	Ga	ain				
	Dual Polarization/Slant Subscriber	H-pol 14.5 dBi	V-pol 13.5 dBi				
	(112mm X 112mm)	Polarization					
	covering 4.9-6.1 GHz See page 60		<u>Dual Slant (opt.)</u> ± 45° (diamond shape)				

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High Gain Vertical or Horizontal Polarized Antenna						
	MA-WA48-23	Gain				
	High Gain ( <b>23 dBi</b> )	23 dBi				
	Vertical or Horizontal Polarized Antenna					
20	covering					
	4.4-5.1 GHz	Polarization				
	See page 135	Linear, Vertical & Horizontal				

Active GPS Antenna							
	MA-AGP15-5	LNA Gain, typ.					
	Active GPS Antenna	25 dB					
	features stable and efficient						
	performance						
	covering	Gain Characteristics of Antenna					
	1575.42±2 MHz	Element					
		+5.0 dBic minimum at zenith					
	See page 230	-10 dBic minimum at 0° elevation					

Passive GPS Antenna						
	MA-PGP15-5	Gain, min.				
	Passive GPS	5 dBic				
	Antenna features stable and efficient performance					
	covering 1575.42±2 MHz	Gain Characteristics of Antenna Element				
	See page 231	-10 dBic minimum at 0° elevation				





## **Parabolic Antennas**

Dual Band Dual Polarization Parabolic Reflector Antenna, 1.2m							
-	MA-WP2556-DP12	Gai	'n				
	Dual Band, Dual Polarization Parabolic Reflector	<u>2.4-2.7 GHz</u> 25 ± 1 dBi	<u>5-6 GHz</u> 32.5 ± 1 dBi				
A DESTRICT	Antenna, 1.2m Covering						
	2.4-2.7 GHz & 5.0-6.0 GHz	Polarization					
	See page 234	Dual, Vertical	& Horizontal				

Dual Polarization Parabolic Dish Antenna, 1.2m							
MA-WP56-DP34 Gain							
1 m	High Gain, Dual Polarization, Parabolic Dish antenna, 1.2m	<u>5.15-6.10 GHz</u> 34 dBi	<u>4.90-5.15 GHz</u> 32 dBi				
	Covering 4.9-6.1 GHz						
	See page 235	Polarization					
	. 0	Dual po	blarized				

Dual Polarized Parabolic Dish Antenna, 1.2m						
	MA-WP61-DP35	Gain				
	High Gain,	5.7-6.5 GHz				
	Dual Polarization, Parabolic Dish antenna, 1.2m	35 dBi				
	Covering					
	5.7-6.5 GHz	Polarization				
	See page 237	Dual polarized				

Dual Polarization Parabolic Dish Antenna, 0.9m						
	MA-WP56-DP32	Gain				
· .	High Gain, Dual Polarization, Parabolic Dish antenna, 0.9m	<u>5.1-5.9 GHz</u> 32 dBi				
. 6.	Covering 5.1-5.9 GHz					
		Polarization				
	See page 236	Dual polarized				

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Wide Band Blade Antenna for Mobile Applications							
MA-VM1765-5	MA-VM1765-5S		Polariz	ation			
(Bottom Mount)	(Magnetic Mount)	Linear, Vertical					
	<b>S</b>		Polariz	ation			
	erodynamic Wide Band antenna	1.7-2.3 GHz	2.3-3.0 GHz	3.0-4.0 GHz	4.0-6.5 GHz		
covering 1.7-6.5GHz		3 dBi	4 dBi	5 dBi	6 dBi		
See page 210	See page 211						

High Gain Dual Pole/Slant 4.9-6.1 GHz Subscriber Antenna							
	MA-WA56-DP23	Ga	ain				
	Dual Polarization/Slant Subscriber Antenna	$23 \pm 1 \text{ dBi}$					
	(305mm X 305mm X 15mm) covering 4.9-6.1 GHz	Polarization					
P		<u>Dual Pole</u> Linear Vertical & Horizontal	$\frac{\text{Dual Slant (opt.)}}{\pm 45^{\circ} \text{ (diamond shape)}}$				
	See page 63						

Mid / High Gain 120 <sup>o</sup> Dual Polarization Base Station Antenna				
	MA-WE56-DP15	Gain		
	120 <sup>o</sup> Dual Polarization Base Station Antenna (370mm X 370mm X 40mm) covering 5.15-5.875 GHz	14.5 dBi		
		Polarization		
	See page 89	Dual, Vertical & Horizontal		





## 600 X 600 mm (23.5" x 23.5") Antennas

High Gain Dual Pole/Slant Subscriber for 2.3-2.7 GHz				
	MA-WA25-DP23	Gain		
	<b>22-24 dBi</b> gain	$23 \pm 1 \text{ dBi}$		
	Dual Polarization/Slant Subscriber Antenna			
	covering 2.3-2.7 GHz	Polarization		
	See page 52	Linear, Vertical & Horizontal		

High Gain Dual Pole/Slant Subscriber for 3.5GHz				
	MA-WA36-DP25	Gain		
	High Gain ( <b>24-26 dBi</b> ) Dual Pole/Slant Antenna	$25\pm1~dBi$		
	covering 3.3-3.8 GHz			
		Polarization		
	See page 57	Linear, Vertical & Horizontal		

High Gain Dual Pole/Slant Full 5GHz spectrum								
	MA-WA56-DP28N	Gain (dBi)						
	High Gain ( <b>26-29.5 dBi</b> ) Wideband Dual	GHz	4.7-4.9	4.9-5.15	5.15-5.875	5.875- 6.1	6.1- 6.425	
	Pole/Slant Antenna	V-Pol	28±1	28.5±0.5	29±0.5	28.5±0.5	27.5±1	
	Covering Full 5GHz spectrum 4.7-6.425 GHz	H-Pol	27±1	28±0.5	28.5±0.5	28±1	27±1	
		Polarization						
		Ve	Dual Pole Vertical & Horizontal		Dua	$\frac{\text{Dual Slant (opt.)}}{\pm 45^{\circ}}$		
	See page 65							





High Gain Dual Pole/Slant Subscriber for 6GHz				
	MA-WA62-DP30	Gain		
	High Gain ( <b>28-30 dBi</b> ) Dual Pole/Slant Antenna	29 ± 1 dBi		
	covering 5.3-6.5 GHz			
		Polarization		
	See page 66	Dual polarization Vertical & Horizontal		

High Gain Subscriber Full 5 & 6 GHz spectrum						
	MA-WA62-30	Gain				
	High Gain ( <b>30 dBi</b> )	4.9-5.15 GHz	5.15-5.875 GHz	5.875-6.5GHz		
	Dual Pole/Slant Antenna	28.5 dBi	29 dBi	30 dBi		
	covering					
	Full 5 & 6 GHz spectrum 4.9-6.5 GHz	Polarization				
	See page 142	Linear, Vertical				

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