

The Luneberg lens is a passive radar reflector used to maximize the radar visibility (RCS) of targets. This reflector also meets the needs of radar performance evaluation.

Lun'tech offers a range of passive radar reflectors that work in the radar frequencies bands S to Ka in rectilinear or circular polarization, and RCS levels ranging from 0.2 m² to 100 m².

The reflector is protected by a composite radome that has passed vibration and acceleration tests, allowing installation in supersonic targets.

A certificate of conformity is issued for each reflector.

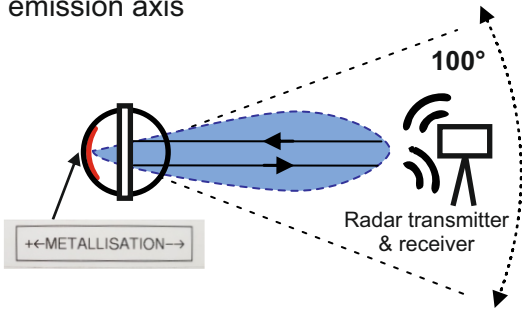
The recycling of the material can be carried out either by Lun'tech, at the request of the customer, or by the customer himself. Separate the four families of components (Polymer, aluminium, composite materials) which will have to be recycled according to the local regulations.



Kind of response : Monostatic / Bistatic / Equatorial

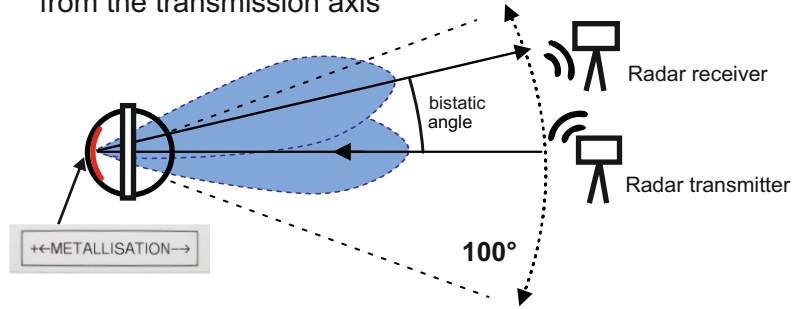
Monostatic

A maximum amount of energy is returned on the emission axis



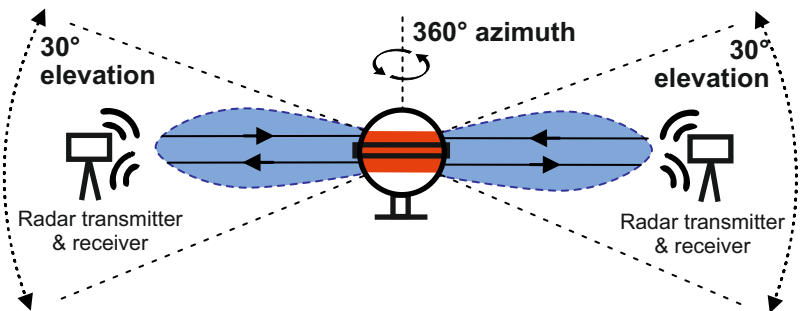
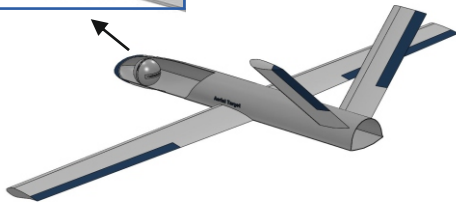
Bistatic

The received signal is sent back in a different direction from the transmission axis



Equatorial

The received signal is returned on 360° of azimuth



Mounting and installations

Monostatic reflector

Aluminum mounting positioned at the back of the metallization



Equatorial reflector

Composite mounting

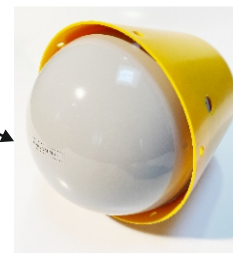


An example of a reflector mounted in target UAV nose cone

Precautions of use:

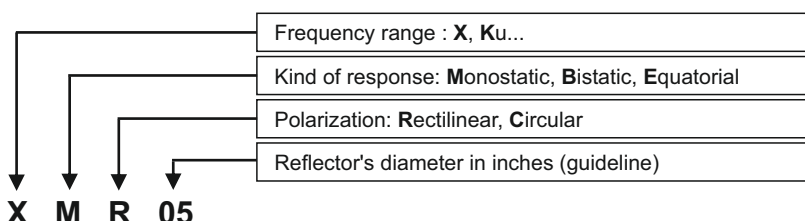
- ⚠ Pay attention to the way it is mounted
- Avoid excessive nose cone thickness
- Avoid a nose cone consisting of a dielectric with high losses
- Avoid any object (especially metal) between the lens and the radar (strap, screws...)

←←METALLISATION→→



	Reference	Radar band	Measuring frequency (GHz)	R.C.S. min (m ²) in the axis	R.C.S. min (m ²) on sides	Angle of aperture (°)	Diameter (inch)	Diameter (cm)	Weight (kg)	
Monostatic	Rectilinear	SMR07	S	3,5	0,6	0,4	100	7	18	1,3
		SMR16	S	3,5	20	15	100	16	41	14
		XMR03	X	9,375	0,2	0,15	80	3	8	0,12
		XMR04	X	9,375	0,55	0,4	80	4	10	0,27
		XMR05	X	9,375	1,2	0,9	100	5	12	0,45
		XMR06	X	9,375	2,5	1,9	100	6	15	0,8
		XMR06.5	X	9,375	4	3	100	6,5	16	1,2
		XMR07	X	9,375	5,5	4	100	7	18	1,3
		XMR08.5	X	9,375	9	8	100	8,5	22	2,5
		XMR09	X	9,375	15	12	100	9	23	2,9
		XMR10	X	9,375	19	16	100	10	25	3,8
		XMR12.5	X	9,375	45	35	100	12,5	32	7,4
		XMR16	X	9,375	90	70	100	16	41	14
		XMR18	X	9,375	100	50	100	17,5	44	20
	Circular	KMR08.5	Ku	14	12	10	100	8,5	22	2,5
		KMR09	Ku	14	15	12	100	9	23	2,9
KMR16		Ku	14	100	75	100	16	41	14	
UDR7.3*		Ka	35	20	9	100	7,3	18,5	4,6	
Bistatic	Rectilinear	XMC09	X	9,375	6	4	100	9,2	23	2,9
		KMC07	Ku	15,54	6	5	100	7	18	1,3
		KMC08.5	Ku	16,5	10	6	100	8,5	22	2,5
		KMC09	Ku	16,5	11	7	100	9,2	23	2,9
		XBR03	X	9,375	0,1	0,05	80	3	8	0,12
		XBR04	X	9,375	0,4	0,2	80	4	10	0,27
		XBR05	X	9,375	1	0,4	100	4,9	12	0,45
		XBR07	X	9,375	2,2	0,7	100	7	18	1,3
Equatorial	Rectilinear	XBR08.5	X	9,375	6	1	100	8,5	22	2,5
		XBR09	X	9,375	6	1	100	9,2	23	2,9
		XBR10	X	9,375	9	2	100	10	25	3,8
		XER06	X	9,375	0,5	0,25	360	6	15	0,8
		XER06.5	X	9,375	0,75	0,4	360	6,5	16	1,2
		XER07	X	9,375	1	0,5	360	7	18	1,3
XER10	X	9,375	5	2	360	10	25	3,8		
XER12.5	X	9,375	10	6,5	360	12,5	32	7,4		
XER16	X	9,375	15	8	360	15,9	41	14		

*Uniform dielectric lens



The above values are given as an indication and can be modified without notice.