RF HOUSINGS

The TBRFH1 series of RF housings are ideal for prototyping RF building blocks operating up to 6 GHz. The housings consists of a 1 inch aluminium profile with mechanically matching RF connectors on each end. The user can select a wide range of RF connector combinations, various housing lengths and optional feed through capacitors. The housings come with RF absorbing pads to suppress coupling and cavity resonance. Solderable sheet metal ground pads, sandwiched between the connectors and the aluminium profile simplify establishing the ground connection.



Picture 1: TBRFH1 RF housing variants



Picture 2: TBRFH1 RF housing components

RF HOUSINGS



Picture 3: TBRFH1 RF housing with optional feed-through capacitor

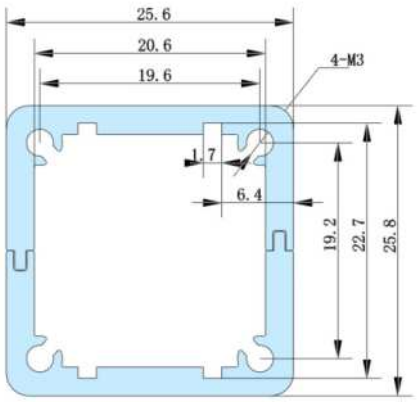
1 Technical data

Outer cross section:	25,6 mm x 25,8 mm
Inner cross section:	20,4 mm x 20,6 mm
Housing material:	anodized aluminium, exposed aluminium at front and rear side
Standard lengths:	35 mm, 50 mm, 100 mm (length of the connector not included) Customisation of the length upon request
RF connector variants:	N-Male, N-Female BNC-Male, BNC-Female SMA-Male, SMA-Female any combination of the above connectors; other connectors or flat end plates upon request
RF absorbing foam:	carbon loaded, 1 GHz to 18 GHz, adhesive backing 3.2 mm thickness: - 8dB loss @ 10 GHz 6.4 mm thickness: - 21,5 dB loss @ 10 GHz
Feed-through capacitor:	10nF / 50V; default cantered placement, optional

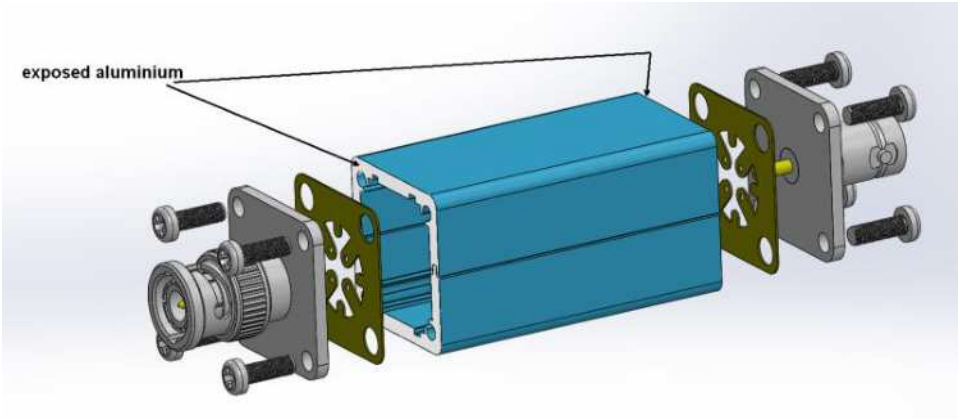
2 Parts list

Front RF connector	1 pc
Rear RF connector	1 pc
Housing half shells, aluminium	2 pcs
Screws, M3 x 10, stainless steel	8 pcs
Sheet metal ground pads	2 pcs
RF absorber foam pad	1 pc
Feed – through capacitor	optional
Flat aluminium end cap	optional

3 Mechanical drawings



Picture 4: housing cross section



Picture 5: explosion drawing

4 Application hints

Provide exposed ground copper on your PCB to solder it to the ground connection pads. Always solder the centre pins of the RF connectors first. Bend the wings of the ground connection pads to reach the exposed ground copper of the PCB.
The PCB can either be inserted horizontally or diagonally, depending on the space requirement of your circuit.
Don´t overturn the screws in order to avoid damaging the threads of the aluminium profile. Ensure that the screws are sitting correctly, before tightening it. In case of a damaged thread, repair it by applying a thin line of epoxy onto the affected thread.

5 Customization

Contact us, if you need customized housings. Following details can be customized, depending on ordering volume:

- Housing length
- Other types of RF connectors, flat end plates
- Position and number of feed-through capacitors
- Laser engraving
- Anodizing colour

6 Ordering Information

Part Numbers: **TBRFH1-LL-FFFF-RRRR-A-F**

LL:	housing profile length	
	35	35 mm
	50	50 mm
	100	100 mm
FFFF:	front RF connector type	
	NM	N-Male
	NF	N-Female
	SMAM	SMA-Male
	SMAF	SMA-Female
	BNCM	BNC-Male
	BNCF	BNC-Female
RRRR:	rear RF connector type	
	NM	N-Male
	NF	N-Female
	SMAM	SMA-Male
	SMAF	SMA-Female
	BNCM	BNC-Male
	BNCF	BNC-Female
A:	RF absorber sheet thickness	
	3	3.2 mm
	6	6.4 mm
F:	feed through capacitor	
	0	without feed-through capacitor
	1	with feed-through capacitor

7 History

Version	Date	Author	Changes
V 1.0	11.12.2019	Mayerhofer	Creation of the document