

Microwavefilters® &



Microwavefilters & TVCsrl

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The branching set (diplexer) is a combination of a TX filter (BPF with stop poles), a circulator and a RX filter (BPF with stop poles).

This diplexer family is used in Radio ODUs for ANSI/ETSI common carrier frequency bands from 6 GHz to 23 GHz.

The use of BPF and stop poles is intentional in order to have the lowest insertion loss, group delay and latency, with 50 dB of rejection of TX over RX (and vice-versa).

L6 GHz Branching Sets Characteristics

MK-D6L-FCCTA

TX Filter Bandwidth **5.915 ÷ 6.138 GHz (f₀=6.0265 GHz, BW=223 MHz)**
 RX Filter Bandwidth **6.1824 ÷ 6.390 GHz (f₀=6.2862 GHz, BW=207.6 MHz)**

MK-D6L-FCCTB

TX Filter Bandwidth **5.915 ÷ 6.1676 GHz (f₀=6.0413 GHz, BW=252.6 MHz)**
 RX Filter Bandwidth **6.212 ÷ 6.4197 GHz (f₀=6.3159 GHz, BW=207.7 MHz)**

MK-D6L-FCCTC

TX Filter Bandwidth **6.1824 ÷ 6.390 GHz (f₀=6.2862 GHz, BW=207.6 MHz)**
 RX Filter Bandwidth **5.915 ÷ 6.138 GHz (f₀=6.0265 GHz, BW=223 MHz)**

MK-D6L-FCCTD

TX Filter Bandwidth **6.212 ÷ 6.4197 GHz (f₀=6.3159 GHz, BW=207.7 MHz)**
 RX Filter Bandwidth **5.915 ÷ 6.1676 GHz (f₀=6.0413 GHz, BW=252.6 MHz)**

U6 GHz Branching Sets Characteristics

MK-D6U-FCCTA

TX Filter Bandwidth **6.440 ÷ 6.720 GHz (f₀=6.580 GHz, BW=280 MHz)**
 RX Filter Bandwidth **6.780 ÷ 7.060 GHz (f₀=6.920 GHz, BW=280 MHz)**

MK-D6U-FCCTB

TX Filter Bandwidth **6.460 ÷ 6.760 GHz (f₀=6.610 GHz, BW=300 MHz)**
 RX Filter Bandwidth **6.820 ÷ 7.100 GHz (f₀=6.960 GHz, BW=280 MHz)**

MK-D6U-FCCTC

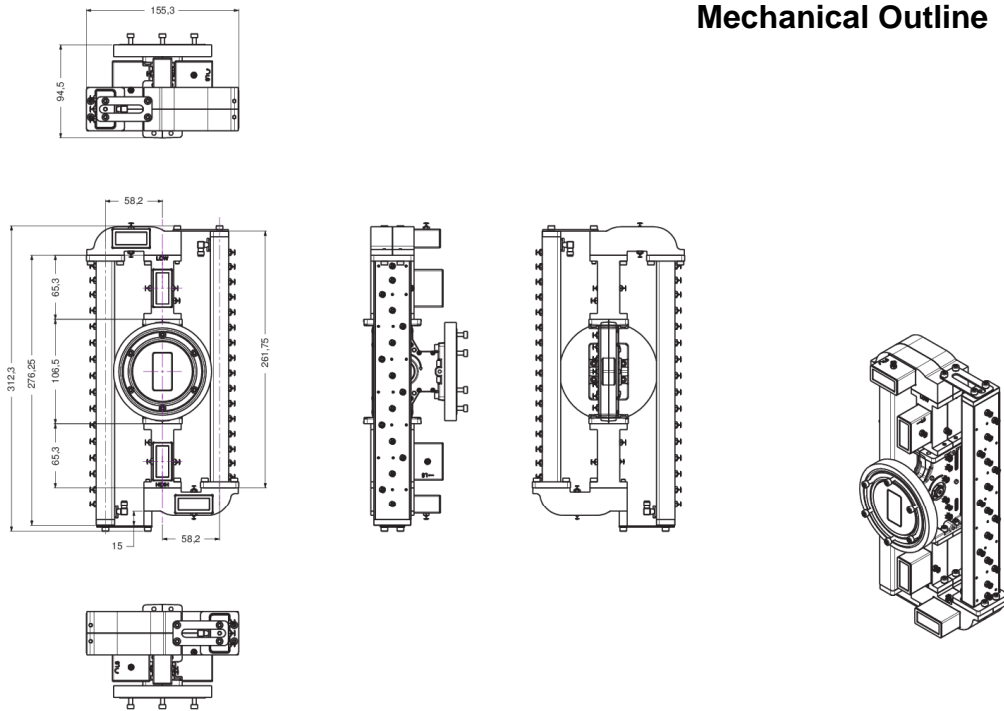
TX Filter Bandwidth **6.780 ÷ 7.060 GHz (f₀=6.920 GHz, BW=280 MHz)**
 RX Filter Bandwidth **6.440 ÷ 6.720 GHz (f₀=6.580 GHz, BW=280 MHz)**

MK-D6U-FCCTD

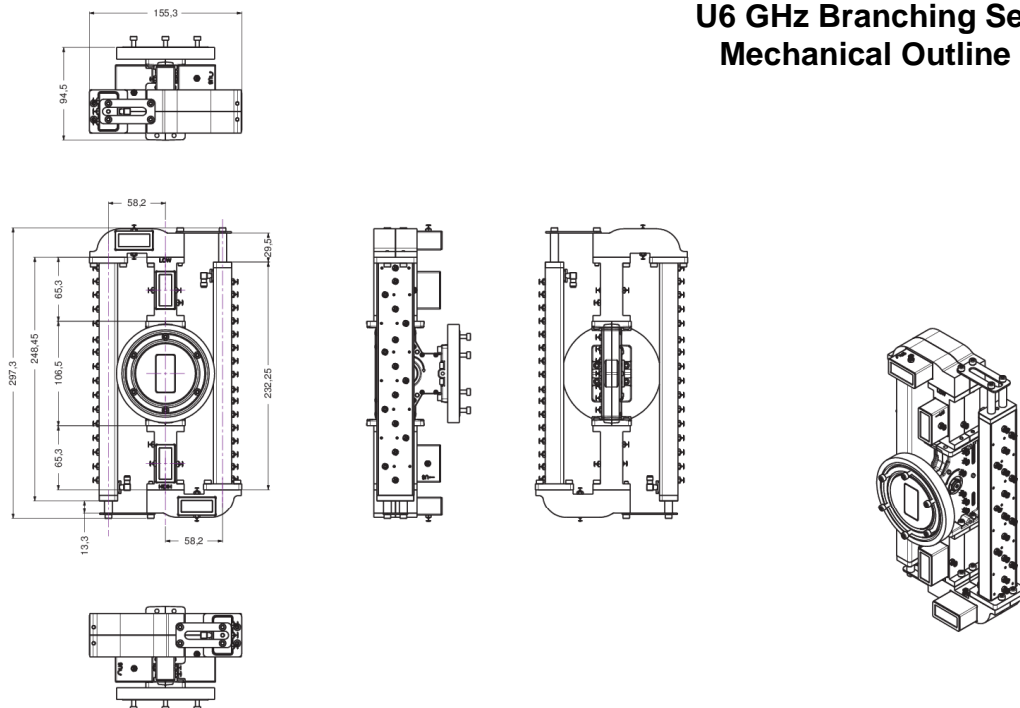
TX Filter Bandwidth **6.820 ÷ 7.100 GHz (f₀=6.960 GHz, BW=280 MHz)**
 RX Filter Bandwidth **6.460 ÷ 6.760 GHz (f₀=6.610 GHz, BW=300 MHz)**

Return Loss **≥ 20 dB**
 Insertion Loss **≤ 1.2 dB in Passband, including Circulator and Notches**
 TX Rejection **≥ 50 dB over RX bandwidth**
 RX Rejection **≥ 50 dB over TX bandwidth**
 Dimensions **L6: 155.3 x 94.5 x 312.3 mm (see next page)**
U6: 155.3 x 94.5 x 297.3 mm (see next page)
 Connectors **WR137 with Special Flange (Antenna Port)**
SMA-Female (TX & RX Filters)

L6 GHz Branching Set Mechanical Outline



U6 GHz Branching Set Mechanical Outline

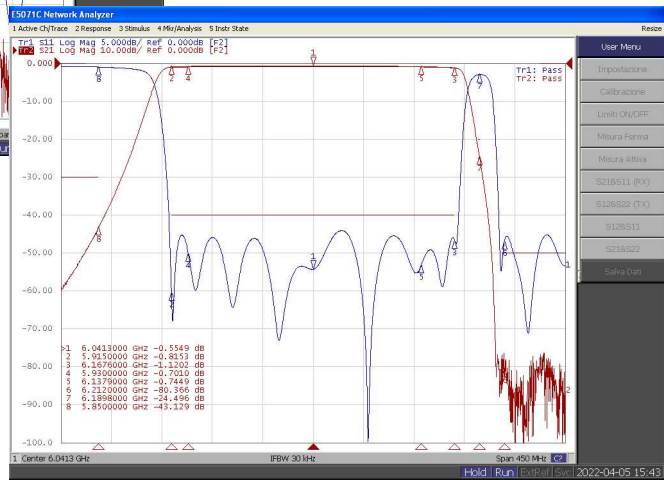


LOW FILTER 5.915 ÷ 6.138 GHz



**L6 GHz Branching Set
Typical Bandpass
Frequency Responses**

LOW FILTER 5.915 ÷ 6.1676 GHz



HIGH FILTER 6.1824 ÷ 6.390 GHz



HIGH FILTER 6.212 ÷ 6.4197 GHz



LOW FILTER 6.440 ÷ 6.720 GHz



**U6 GHz Branching Set
Typical Bandpass
Frequency Responses**

LOW FILTER 6.460 ÷ 6.760 GHz



HIGH FILTER 6.780 ÷ 7.060 GHz



HIGH FILTER 6.820 ÷ 7.010 GHz

