

## Coaxial Magnetron Launchers CMLD 1.1 and CML 1.1

### Basic Description

The S-TEAM CMLD 1.1 and CML 1.1 coaxial magnetron launchers are compact, robust components connecting a class of standard 2.45-GHz Panasonic (and equivalent) magnetron types directly to 7/8" EIA coaxial line, avoiding thus need for cumbersome combination of a bulky waveguide launcher with additional waveguide-to-coax adapter.

The employed noncontacting coupling of the magnetron antenna eliminates the problem of sparking and overheating that can arise in contacting junctions due to imperfect galvanic contact.

The CMLD launcher integrates a bidirectional detector enabling simultaneous measurement of incident, reflected and net power delivered to load, and providing signal for magnetron protection circuits.

The CML is an option without bidirectional detector. All relevant parameters are the same, notably all dimensions except the total length (120 mm in CMLD, 69 mm in CML). CML can be used when there is no need to monitor reflected power for magnetron protection: it is not recommended in initial design phases.

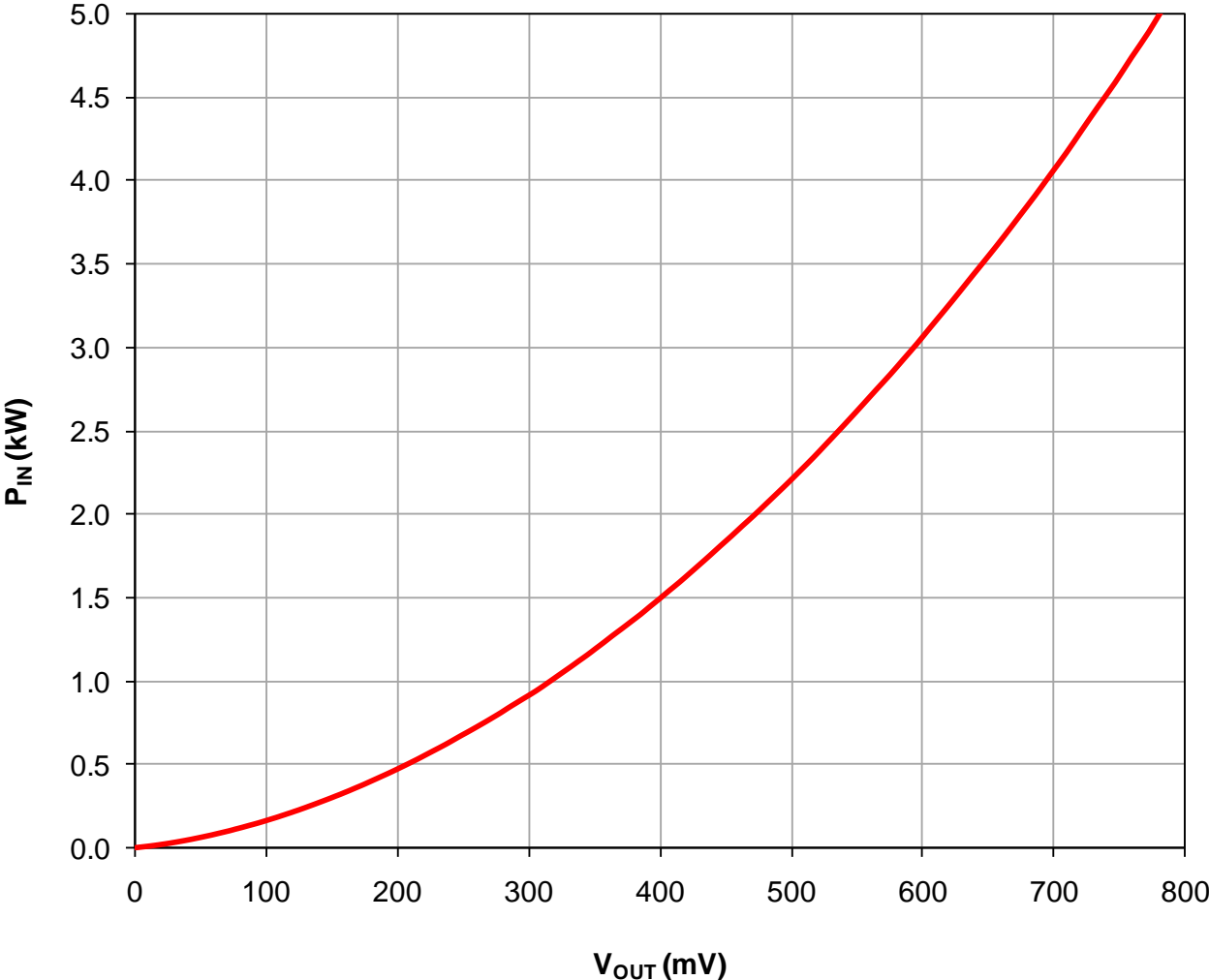
The maximum mean power of 2 kW is limited mainly by the 7/8" EIA line specifications.



### Specifications

Electrical	
Panasonic magnetron types	2M213 (0.7 kW) 2M107A (0.87 kW) 2M167 (0.94 kW) 2M244 (1 kW) 2M261 (1.1 kW) 2M137 (1.4 kW) 2M262 (1.5 kW)
Output coaxial line	7/8" EIA (diameters 8.7 mm/20 mm)
Frequency range	2425 ÷ 2475 MHz
Maximum working power	2 kW
Directivity of bidir detector couplers (min)	25 dB
Detector output voltage; $P_{IN} = 1$ kW (typ)	315 mV
Detector output connector	SMB-M
Mechanical	
Mass	0.75 kg
Length (axial dimension)	120 mm (4.72 in)
Width	125 mm (4.92 in)
Height	95 mm (3.74 in)
Other	
Operating temperature range	+5 to +125 °C
Storage temperature range	-10 to +125 °C

Typical Transfer Characteristic (f = 2450 MHz, Ta = 25 °C, R<sub>LOAD</sub> = 33 kΩ)



The transfer characteristic can be approximated by the formula

$$P_{IN} = 0.9381 V_{OUT} + 0.007 V_{OUT}^2$$

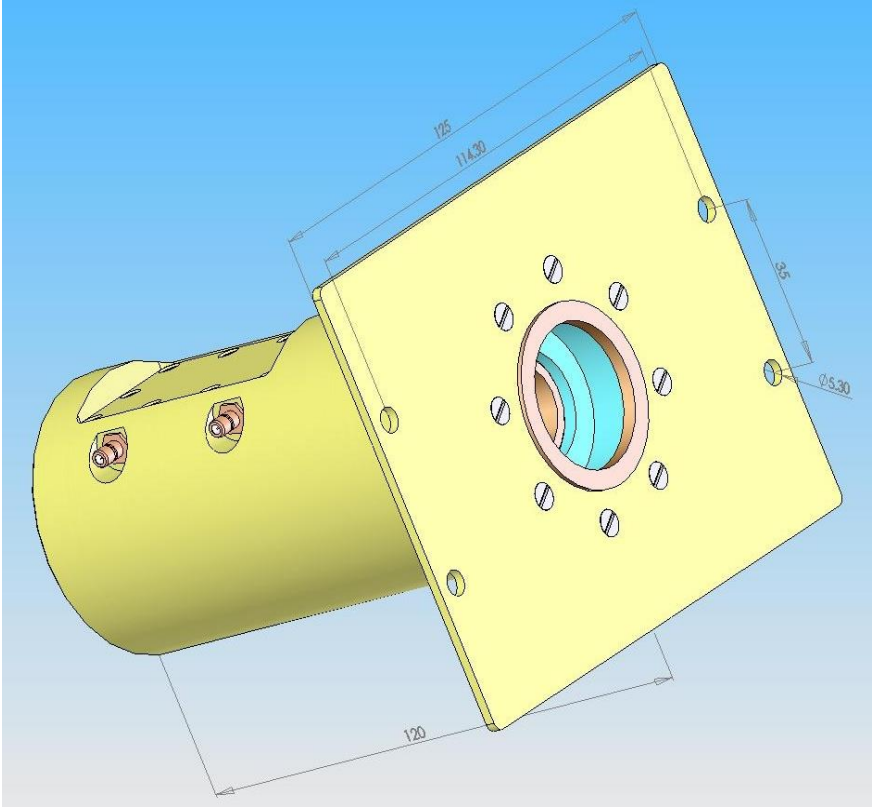
where V<sub>OUT</sub> is in millivolts and P<sub>IN</sub> is in watts.

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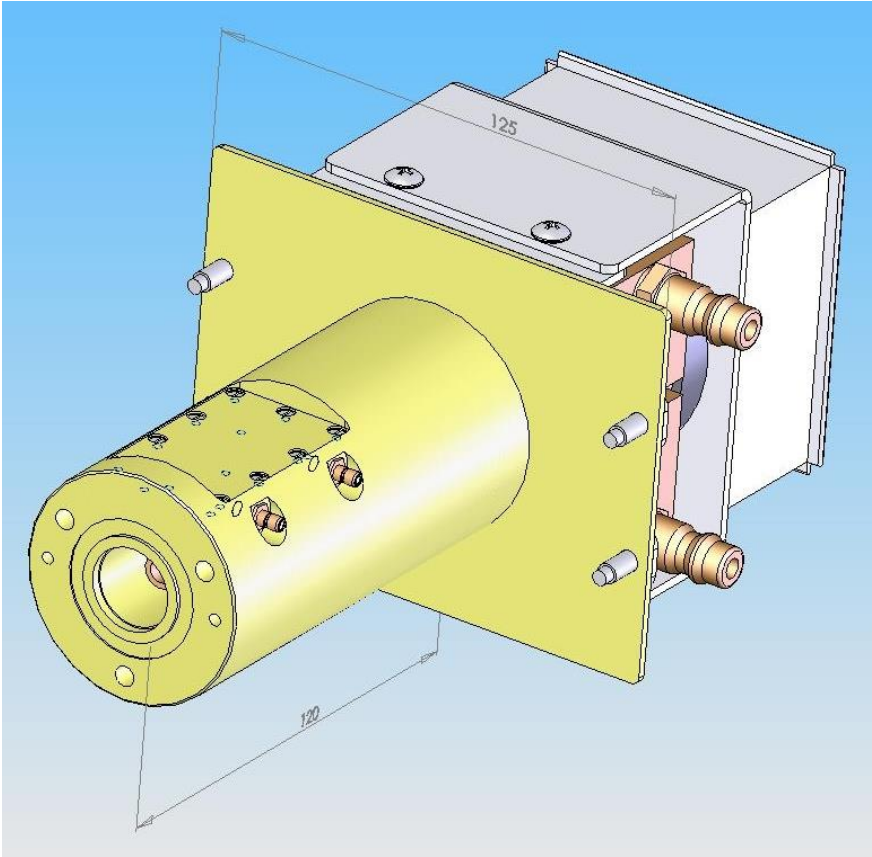


## Basic Dimensions (in millimeters)

Note: In CML, the total length is 69 mm instead of 120 mm.



## Magnetron + Launcher Assembly



Dimensions of Cavity for Magnetron Antenna

