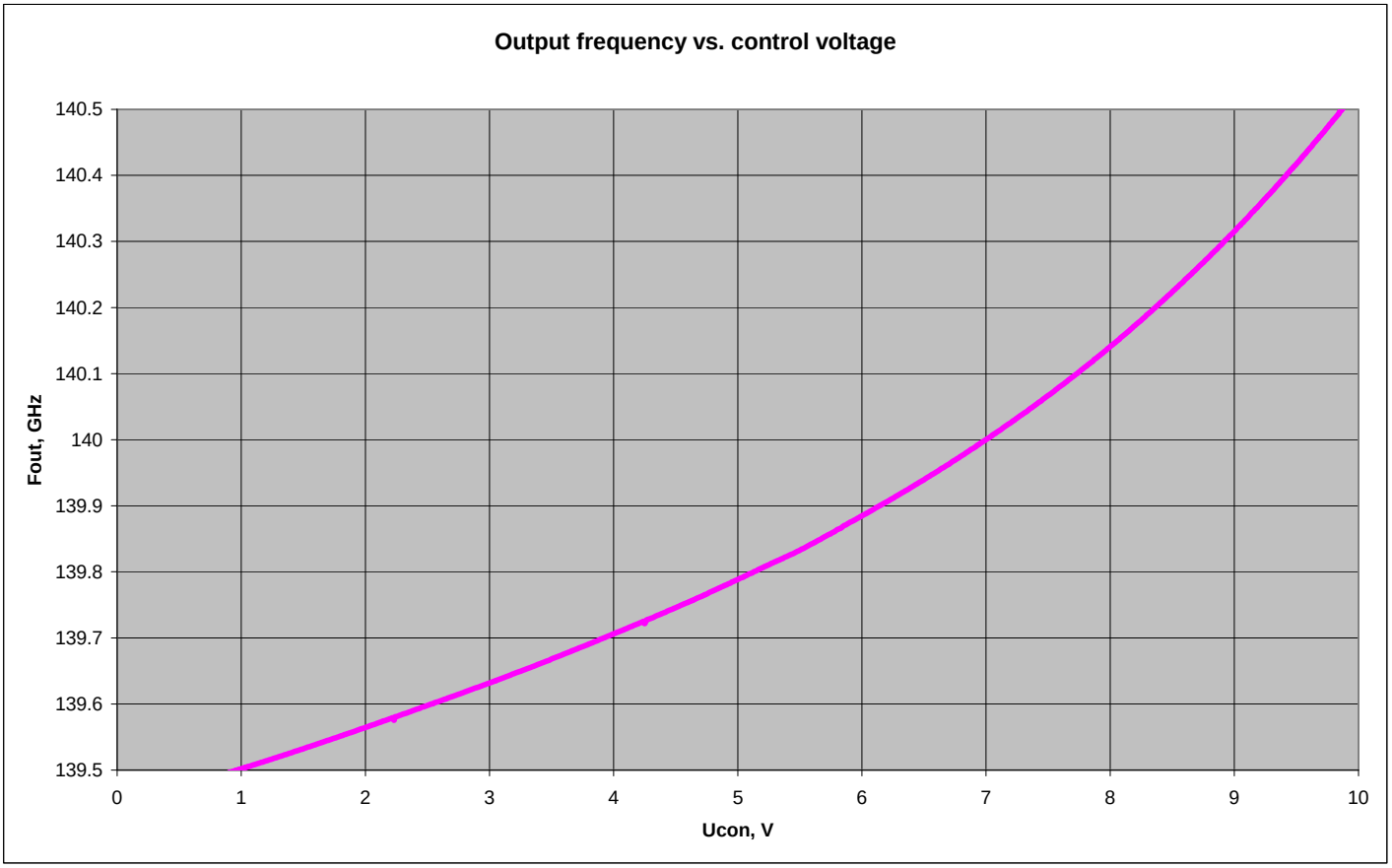
ELVA-1 Microwave Ltd. S.A.
Mm-wave Division
e-mail: sales@elva-1.com
Internet: http://www.elva-1.com/

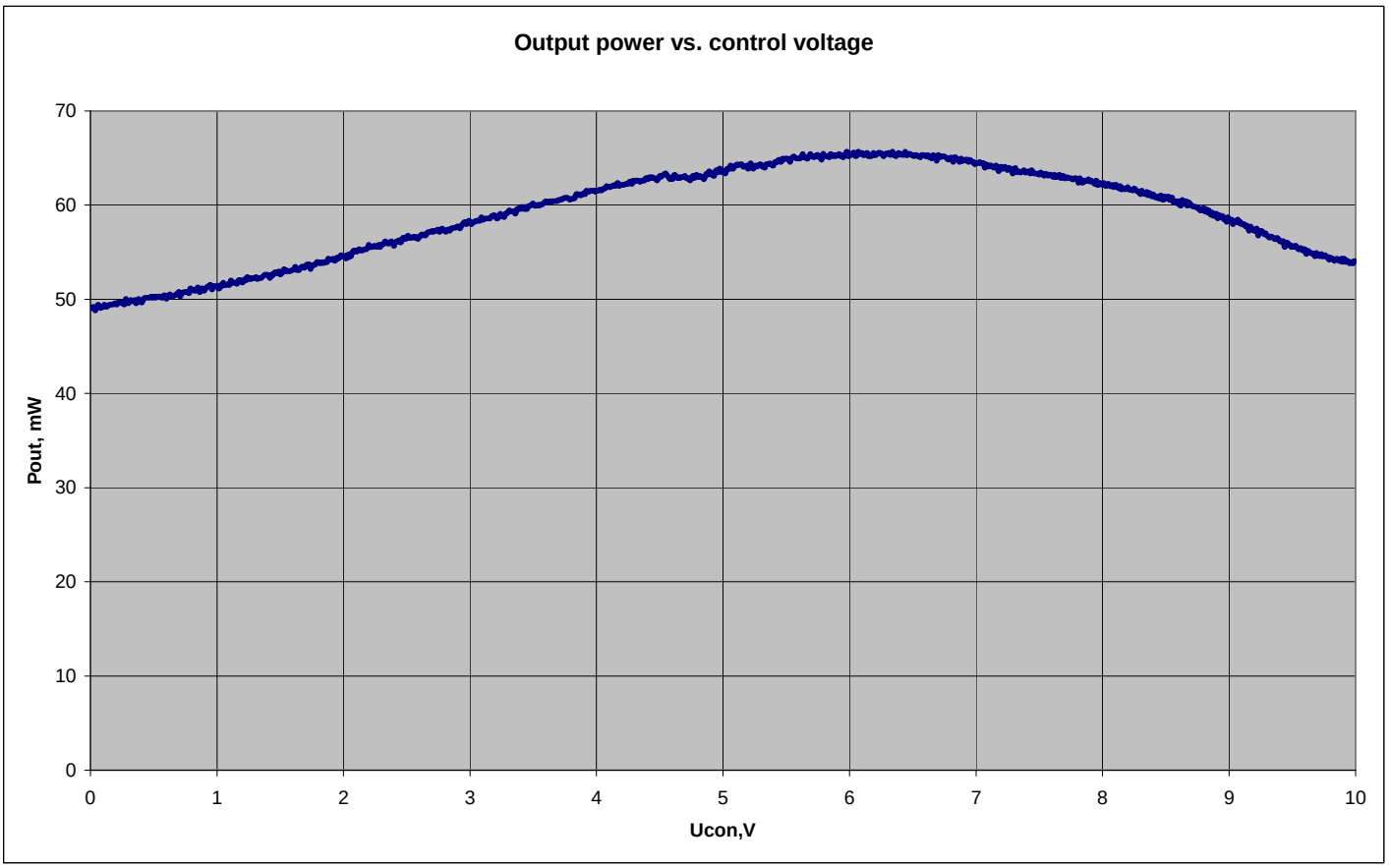
Voltage Controlled Oscillator
VCOM-06/140/1/50-T
Serial No.: A-1110/01

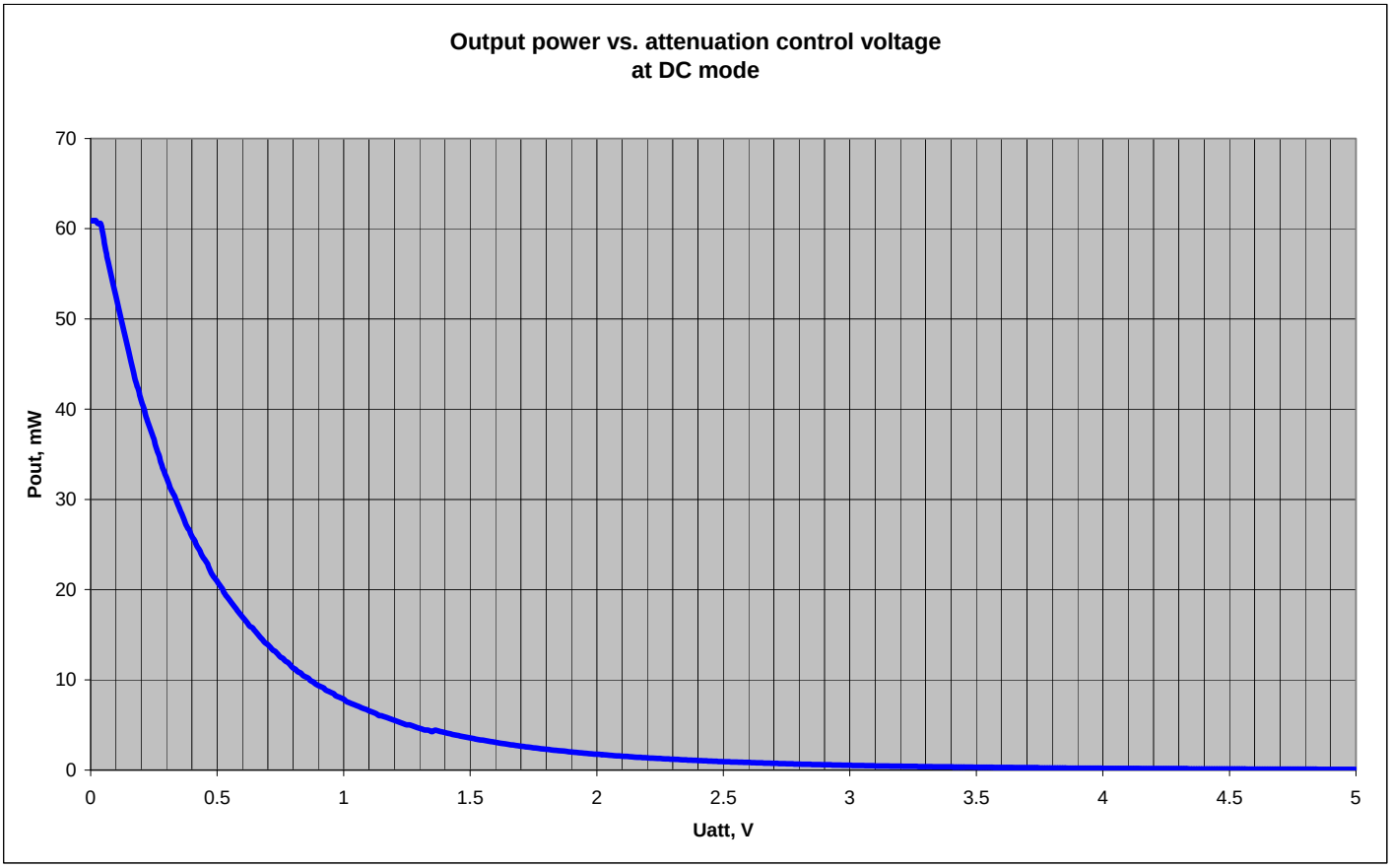
Specifications

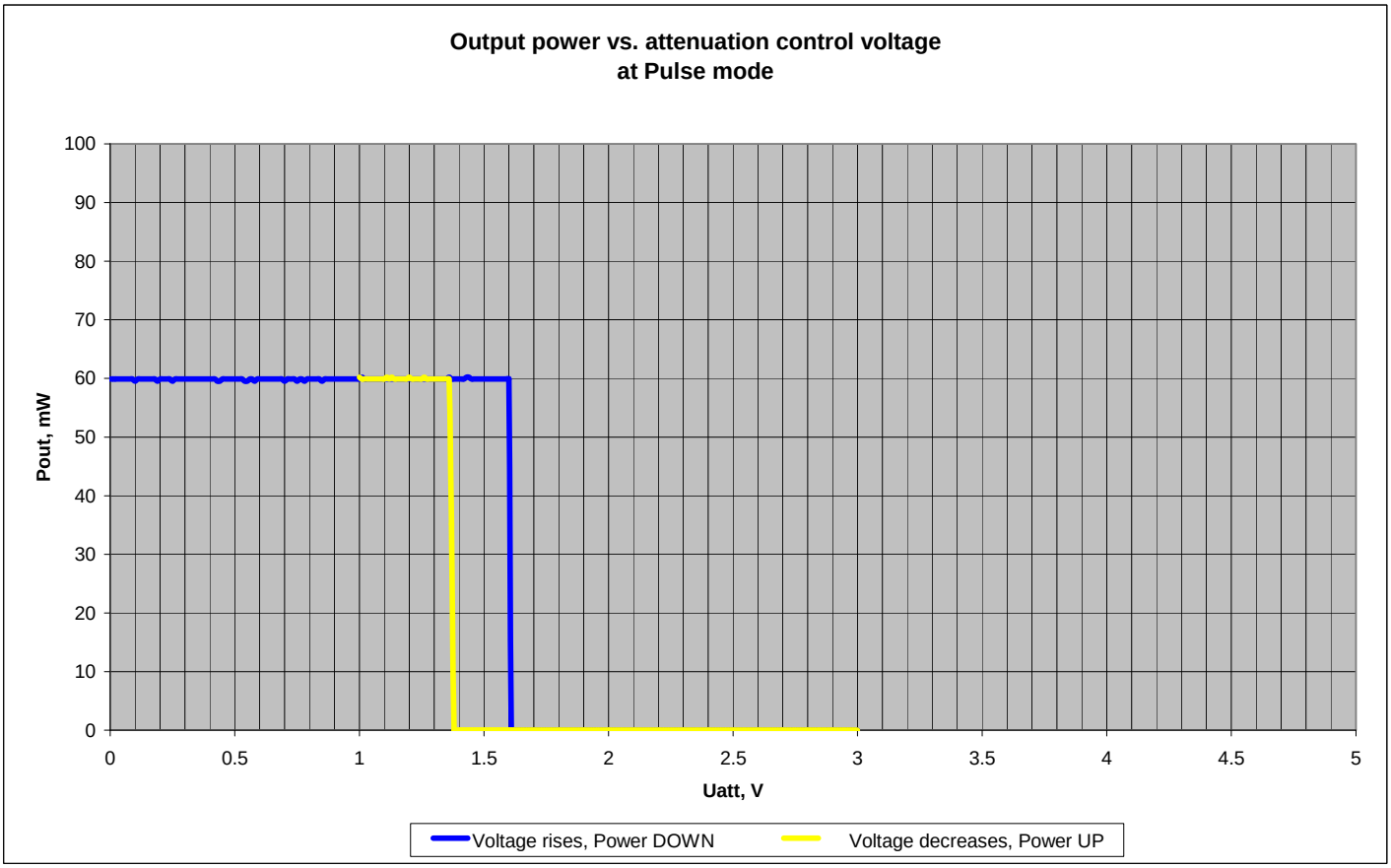
Frequency Range (controlled)	139.5-140.5 GHz
Output power (controlled)	50 mW (typ)
Frequency control voltages (DC and 0…10kHz pulse)	0…+10 VDC and 0…+10 Vpp
Spectrum line width at level -20 dBc	200 kHz max
Temperature stability(with thermostat ON)	1MHz/deg C
Controled attenuation	0…40 dB
Attenuation control voltages (DC or 0…10kHz pulse)	0…+10 VDC or 0…+10 Vpp
Size, mm	380x130x85
Supply voltages of oscillator block	-12VDC +/-10% 200mA, +12VDC +/-10% 600mA, +24VDC +/-10% 450mA +24VDC +/-10% 500mA (Heater)
External power supply block	230V/50Hz
Flange/ Waveguide	UG-387/U-M /WR10

Detailed performances of VCOM-06/140/1/50-T serial No.: A-1110/01 are shown in figures below.


Output frequency vs. control voltage
Fout, GHz
140.5
140.4
140.3
140.2
140.1
140
139.9
139.8
139.7
139.6
139.5
0
1
2
3
4
5
6
7
8
9
10
Ucon, V

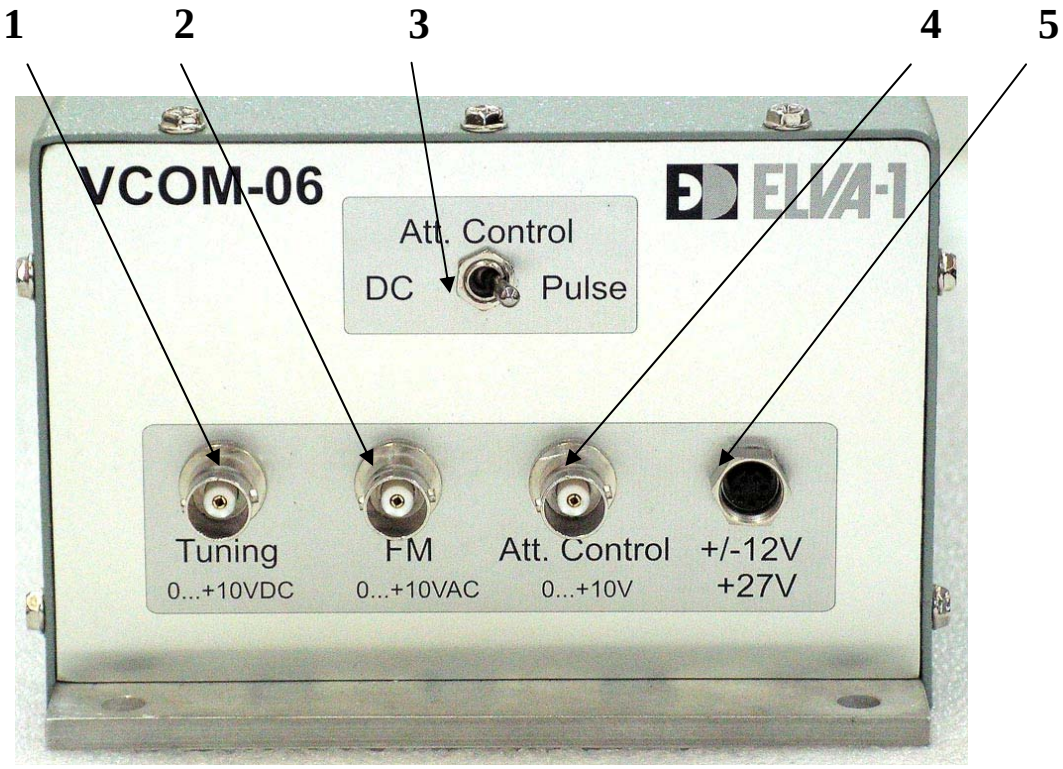

Output power vs. control voltage
Pout, mW
70
60
50
40
30
20
10
0
0
1
2
3
4
5
6
7
8
9
10
Ucon,V





Note: Frequency control inputs “Tuning” and “FM” are equal for control voltages.

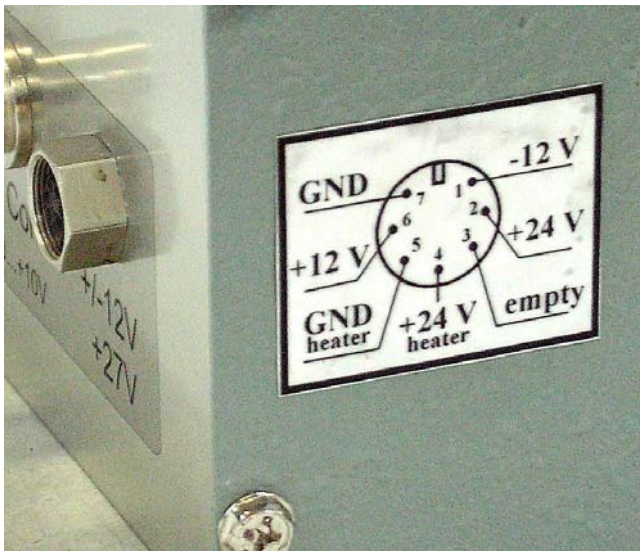
VCOM-06/140/1/50-T



Front Panel of VCOM-06/140/1/50-T

1 – BNC connector for frequency tuning, 2 – BNC connector for frequency modulation, 3 – DC/Pulse attenuator control toggle, 4 – BNC connector for attenuation control, 5 – Power supply wire.

Pinout of power supply wire plug pos. 5 fig 5 “Binder p/n 09 0478 800 07” or “Farnell p/n 112-2355”). Look at the plug is from the outside.



Cautions

1. Make sure the VCOM-06/140/1/50 source is protected from water drops falling on its housing. Failure of electronic circuits is possible if water penetrates inside the source.
2. Make sure there is a ventilation clearance between VCOM-06/140/1/50 housing and other surfaces (for example additional waterproof cover). This gap is necessary to prevent VCOM-06/140/1/50 overheating and do not reduce lifetime of the source.
3. It's strongly recommended to place the VCOM-06/140/1/50 source directly on metal surface with good thermal contact to prevent overheating.
4. Make sure that output waveguide is not curved. To prevent this use screws or another tools to adjust VCOM-06/140/1/50 source position. One should select VCOM-06/140/1/50 source position (to make the waveguide straight) first and then fix the source on the mounting plate.
5. It is prohibited to hit, throw and drop VCOM-06/140/1/50 source. This can cause mechanical or electronics damage.
6. Do not keep waveguide output of the VCOM-06/140/1/50 source open. Metal particles penetrated inside the waveguide channel cause failure of source. This refers to all microwave devices especially to devices containing permanent magnets, e.g. circulators, isolators. Use special covers or an isolation (adhesive) tape or stickers to close any open waveguides.
7. Powerful microwave radiation is dangerous for any biological structures. Do not expose any body regions to microwave radiation; do not place them in front of an open waveguide when microwave source is working. Do not look into the open waveguide.