ADVANCED COMMUNICATIONS RESEARCH & DEVELOPMENT

X-BAND HUBMOUNT SSPA

Ed.03

ACSSH-X High Power SSPA Series (100,150,200,250W)

10/05/06

DESCRIPTION

ACSSH-X series consist of integrated RF Solid State Power Amplifiers (SSPA). ACSSH-X series of hubmount SSPA are ideal to work with X-band rackmount up-converters. All products in this series has been tested and calibrated between -40 and +55ºC, so they assure very good gain stability with temperature. ACSSH-X also includes a temperature alarm and power supply shutdown to protect the amplifier from permanent damages when SSPA temperature exceeds 100ºC, when the temperature go down 85º C the equipment begin work again. ACSSH-X allows communication through RS-232 or RS-485 for alarm monitoring, power output monitoring, operating temperature, etc.

SPECIFICATIONS

Maximum input level without damage ..... +10 dBm
Input impedance ..... 50 Ohms
Input VSWR ..... <1.3:1

Output frequency ..... 7.9 – 8.4 GHz
Output impedance ..... 50 Ohms
Output VSWR ..... <1.3:1
Output sample ..... -45 dBc ± 2 dB

Transmit Characteristics @ 25ºC	P1dB	Gain	Power Consumption	Size (LxWxH)	Weight
ACSSH-X100W	50.0 dBm	61 ± 1 dB	~ 800 W	500x300x280 mm	25 Kg
ACSSH-X150W	51.8 dBm	63 ± 1 dB	~ 1000 W	500x300x280 mm	25 Kg
ACSSH-X200W	53.0 dBm	64 ± 1 dB	~ 1400 W	600x450x335 mm	38 Kg
ACSSH-X250W	54.0 dBm	65 ± 1 dB	~ 1600 W	600x450x335 mm	38 Kg

Gain flatness over the whole bandwith ..... ±1 dB
Gain flatness over 40 MHz..... ± 0.3 dB
Gain stability (24 Hours) ..... ≤ 0.5 dB
Gain variation over temperature ..... ±1.2 dB over the whole range
Noise figure..... ≤ 20 dB
Spurious ..... < -60 dBc at P_{OUT}=P1dB
Harmonics ..... ≤ -30 dBc
Third order intermodulation products ..... <-25 dBc for 2 tones Δf=5 Mhz for P_{OUT}=P1dB-3 dB

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Group delay (linear, parabolic, ripple) ..... 0.02 ns/MHz, 0.003 ns/MHz^2, 1ns p-p (over any 40 MHz)
AM/PM conversion..... ≤ 3.5 °/dB at P1dB

POWER SUPPLY

AC input voltage ACSSH-X100W/150W ..... 220 VAC (47-63 Hz)
AC input voltage ACSSH-X200W/250W ..... 220 VAC (47-63 Hz)

ENVIRONMENTAL SPECIFICATIONS

Storage temperature ..... -40 to +80ºC
Operating temperature ..... -20 to +55ºC (*2)
Relative humidity..... up to 100%
Operating altitude ..... up to 3500 m

(*2) Operating temperature (-40ºC to 55ºC)could be selected as an option.

MECHANICAL SPECIFICATIONS

Interfaces	TX input	→	Type N(F) 50 Ω
	TX output	→	WR112 flange CPR112
	TX ouput sample	→	Type N(F) 50 Ω
	AC line	→	MS3112E12-3P
	M&C	→	MS3112E12-14S

Cooling system ..... Forced air integrated
Finish ..... White

OTHER CHARACTERISTICS

No damage at all output load conditions.
Output voltage at M&C connector proportional to the output power.
Alarm pin at M&C connector when power ouput is less than +30 dBm.
Protection against high temperature conditions.

OPTIONS

HP1: ..... Operating temperature (-40 to +55ºC)
HPC: ..... Custom design

PART NUMBER CONFIGURATION

EXAMPLE 1: A standalone 150 watt hubmount SSPA standar X-band frecuency with an optional operating temperature range (-40 to +55ºC):

ACSSH-X150W-HP1

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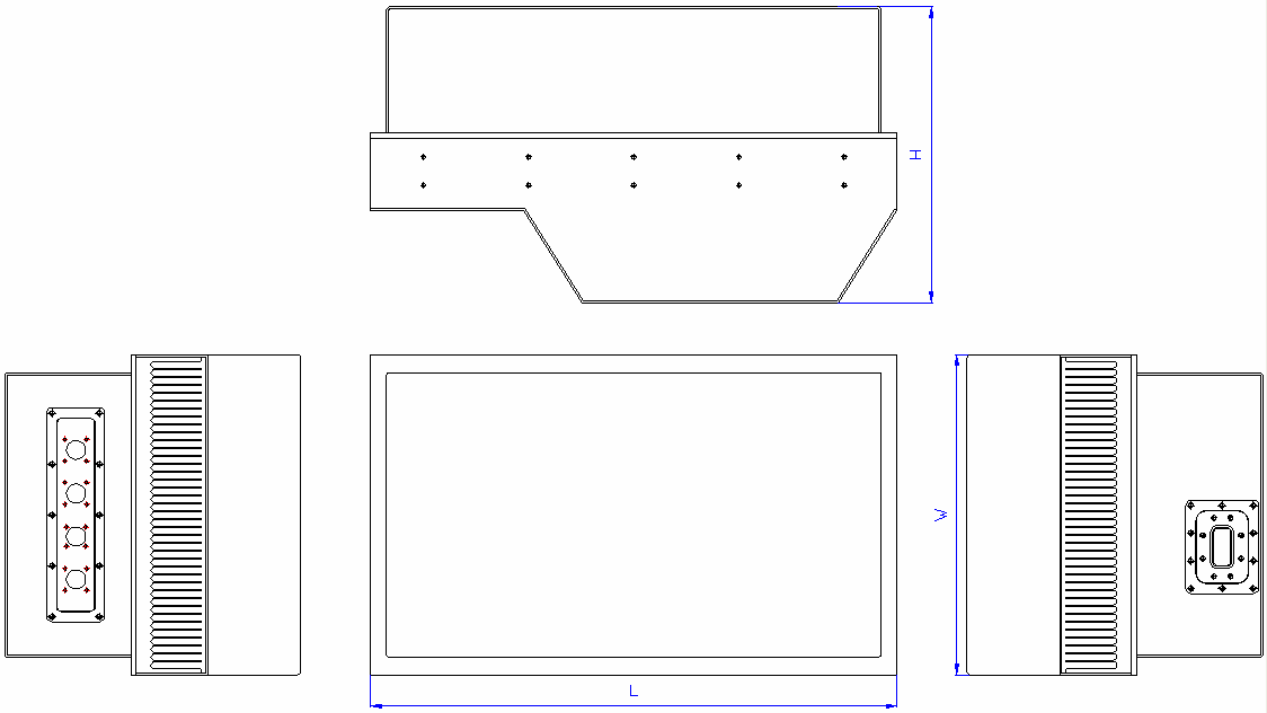
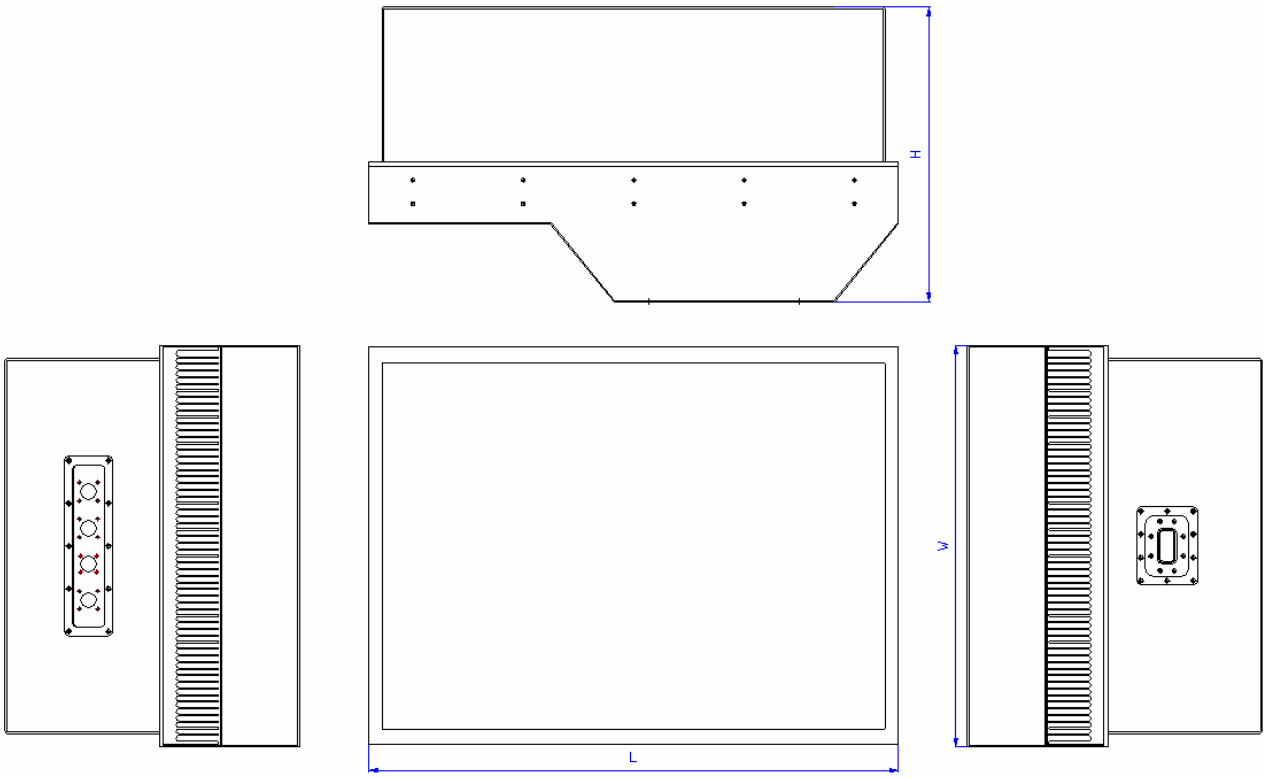
MECHANICAL DRAWINGS (100, 150W)



MECHANICAL DRAWINGS (200, 250W)



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