

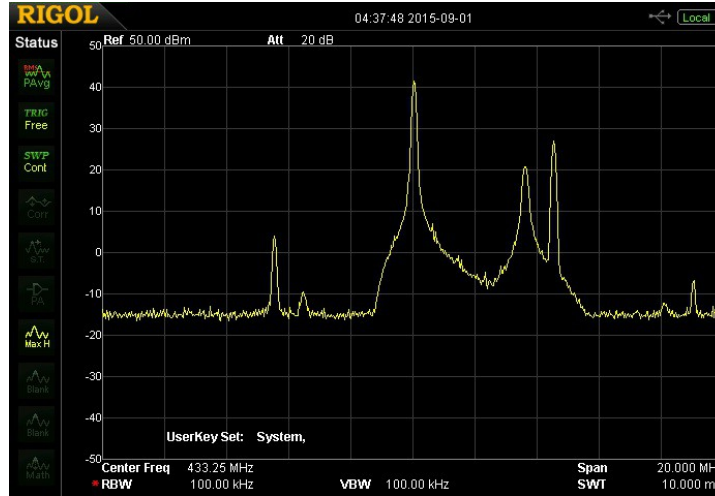


Model 33-1A
33 cm, 42 dB, 20/6/3 Watt
RF LINEAR
POWER AMPLIFIER

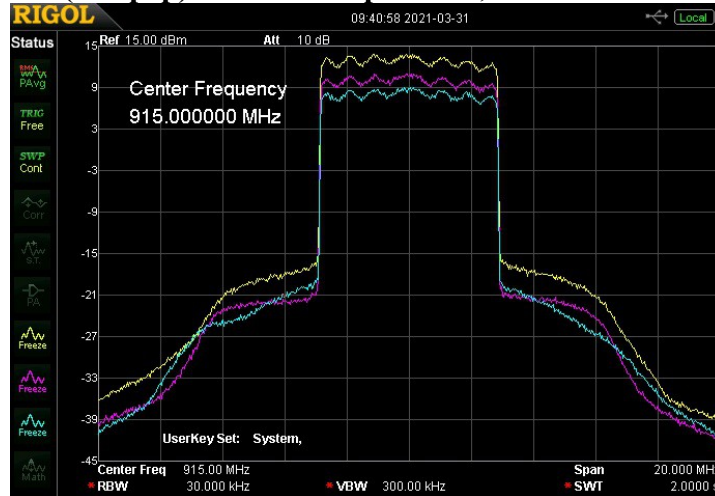


The KH6HTV-VIDEO Model 33-1A, RF Power Amplifier is for use in the amateur radio 33cm band. It is a Class A-B amplifier designed for linear service. It can be used to produce a 20 Watt FM signal or 6 Watt (pep), analog, TV signal. It can also produce a 3 Watt (rms), high-definition (1080P), digital TV signal. The rf power output can be lowered -3dB or -5dB for reduced DC current draw with the front panel rotary switch. The 33-1A can also be used on the 70cm band with a lower output power of 2 Watts (analog TV) and 500 mW (DTV).

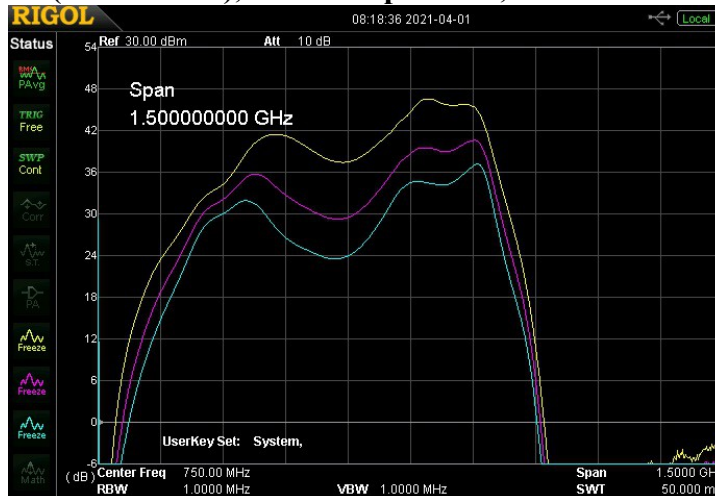
PARAMETER	Typical Performance	Notes
Output Power (analog TV or SSB)	6 Watts PEP (+38 dBm) 2 Watts PEP (+33dBm)	33cm, peak power on sync tips 70cm
Output Power (Digital TV)	3 Watts, (+35dBm) 500mW (+27dBm)	33cm rms power 70cm
Output Power (FM, CW)	20 Watts (+43dBm) 3.5 Watts (+35.5dBm)	33cm, saturated output 70cm
Output Power vs. Supply Voltage	+35 dBm @ 12 - 13.8 Vdc +34 dBm @ 10 Vdc	DTV service
RF Power Amplifier Gain	42 dB / 38 dB	33cm & 70cm
Amplifier Gain Flatness	± 2 dB	33cm, 902 - 928 MHz
Amplifier Max Input Power	50 mW, +17 dBm	
LSB Rejection (analog VUSB)	better than -20dB	LSB/USB ratio - see photo
Spectrum Regrowth (Digital TV)	-30 dB at +35dBm rms	see photo
Duty Cycle	100 %	heat sink & cooling fan included
DC Supply Voltage	13.8 Vdc	10 to 15 Vdc
DC Current @ 13.8 Vdc	2, 1.2 or 0.9 Amps	2 W / 1.5 W / 1W (DTV)
Control - Rotary Switch	OFF - HI - MED - LOW	rf power adj -3dB & -5dB
RF Connectors	SMA input & N output	
Dimensions & Weight	4.2" x 3.5" x 7.4"	1.5 lbs
Accessories Included	instruction manual, test report, DC power cord, 20" SMA cable	



+38 dBm (6 Wpew) VUSB-TV Spectrum, 10dB/div & 2 MHz/div



+35dBm (3 Watt rms), DVB-T Spectrum, 6dB/div & 2 MHz/div



**S21 Gain frequency response sweep from 0 to 1.5 GHz. 6dB/div & 150MHz/div
Yellow trace = High power, magenta = Medium, & cyan = Low**

NOTICE: *This linear amplifier is not FCC type accepted. Therefore, the use of this amplifier is only legal in the USA, amateur radio, 70 & 33 cm bands. Owners and operators of this amplifier must be licensed amateur radio operators.*