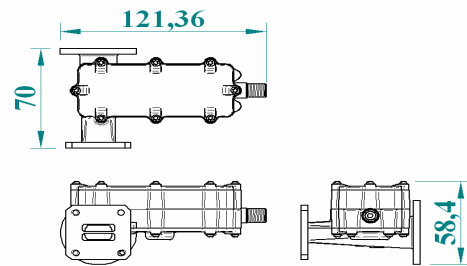


# Dual Oscillator VSAT Integrated LNB, OMT and TX Reject Filter

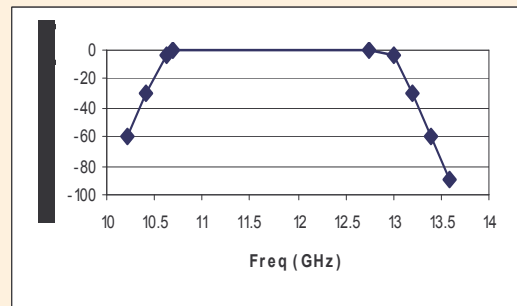
## SPV – 10SM, SPV – 11SM, SPV-20SM & SPV-21SM

Aug 2007



<b>1</b>	<b>Input Frequency</b> Low Band High Band	<b>SPV-10 &amp; 20SM</b> 10.7 - 11.7 11.7 - 12.75	<b>SPV-11 &amp; 21SM</b> 10.95-12.15 GHz 12.25-12.75 GHz
<b>2</b>	<b>Output Frequency</b> Low Band High Band	950 - 1950 1100 - 2150	950-2150 MHz 950-1450 MHz
<b>3</b>	<b>Local Oscillator Frequency</b> LO High	9.75GHz 10.6GHz	10.0 GHz 11.30 GHz
<b>4</b>	<b>Noise Figure</b> (measured at circular waveguide port)	0.7 dB typ	
<b>5</b>	<b>Gain</b>	57 - 70dB	
<b>6</b>	<b>Gain Ripple</b>  26 MHz bandwidth Low Band High Band	  <1dB <5dB typ <5dB typ	
<b>7</b>	<b>Local Oscillator Phase Noise (typ)</b>  1kHz 10kHz 100kHz	  -80 dBc/Hz -100 dBc/Hz -115 dBc/Hz	
<b>8</b>	<b>Local Oscillator temperature stability</b>  -40°C to +70°C	  +/-450 KHz	
<b>9</b>	<b>OMT Transmit to Receive Isolation, all ports terminated</b>  10.7 - 14.5GHz	  35 dB	
<b>10</b>	<b>OMT Transmit XPD, all ports terminated</b>  13.75 – 14.5GHz	  35 dB	
<b>11</b>	<b>Rejection to transmit signal at F-type from rectangular flange input</b>	140 dB typ	
<b>12</b>	<b>Image Rejection</b>	120 dB typ	
<b>13</b>	<b>Maximum Tx power level at rectangular flange input</b> 14.0 - 14.5GHz	10 Watt	
<b>14</b>	<b>Two tone o/p IP3</b>	>15 dBm	

**15 integrated filter frequency response (typ)**



<b>16</b>	<b>Output Connector</b> Return Loss in 75Ω	F -type >10 dB
<b>17</b>	<b>Operating Temp Range</b> Storage Temp Range	-40°C to +70°C -40°C to +70°C
<b>18</b>	<b>PSU (applied to F-type)</b>	8 – 21V
<b>19</b>	<b>Current consumption</b>	110mA typ
<b>20</b>	<b>Band selection – signals applied to F-type</b>  SPV-10SM & SPV-11SM High band selection Low band selection  SPV-20SM & SPV-21SM Low band Selection High band selection	  22kHz tone No tone  11.5 to 14V 15.5 to 21V

LO/Control	Tone	Voltage
9.75&10.6 GHz	SPV-10SM	SPV-20SM
10.0&11.3 GHz	SPV-11SM	SPV-21SM

**21 Waveguide Interfaces**

**Feed Antenna Port** 18.5mm Ø Waveguide, C120 Flange  
**Transmitter Port** WG17, R120, WR75, UBR120

Patent Pending