

VECTOR

Applicant FRN 26456863

Applicant Name Vector Launch Inc.

Applicant Date Submitted 10-Oct-17

Applicant Date Required 01-Jan-18

Applicant File Number GN-024-VSS-NEW

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License Type Experimental (STA) For Launch Vehicle Series Vector-R Category Block-0.00X

Number of Links 4

Link 1

Telemetry Downlink
 Space Telemetry Station ER
 S-Band 2200 - 2290 MHz
 Band Edge (Lower) 2200 MHz
 Band Edge (Upper) 2290 MHz
 Band 90 MHz
 Center Frequency 2213.5 MHz
 Transmit Power 10 W
 Transmit Power 10 dBW
 Antenna Gain 0 dBi
 EIRP 10 dBW

Data Type Digital
 Modulation SQPSK

Data Rate 128 kbps

FEC Type LDPC

Bandwidth Multiplier 0.90

Maximum Approach Velocity 250 m/s
 Maximum Doppler (x 2) 3.692 kHz

Necessary Bandwidth 118.508 kHz
 Necessary Bandwidth (Lower) 2213.441 MHz
 Necessary Bandwidth (Upper) 2213.559 MHz
 Power Spectral Density per 4 kHz -4.6 dBW/4 kHz

Emission Designator 118KG1DCT

Polarization RHCP

Launch Site Name Randsburg CA
 Inclination (Min) Low altitude test

Launch Site Name
 Inclination (Min)

Launch Site Name
 Inclination (Min)

Timeline (Typical) Time Event
 T+00:00:00.0 Liftoff
 T+00:00:59.5 Max Altitude

Link 2

Telemetry Downlink
 Space Telemetry Station ER
 S-Band 2200 - 2290 MHz
 Band Edge (Lower) 2200 MHz
 Band Edge (Upper) 2290 MHz
 Band 90 MHz
 Center Frequency 2231.5 MHz
 Transmit Power 10 W
 Transmit Power 10 dBW
 Antenna Gain 0 dBi
 EIRP 10 dBW

Data Type Digital
 Modulation SQPSK

Data Rate 256 kbps

FEC Type LDPC

Bandwidth Multiplier 0.90

Maximum Doppler (x 2) 3.722 kHz

Necessary Bandwidth 233.324 kHz
 Necessary Bandwidth (Lower) 2231.383 MHz
 Necessary Bandwidth (Upper) 2231.617 MHz
 Power Spectral Density per 4 kHz -7.6 dBW/4 kHz

Emission Designator 233KG1DCT

Polarization RHCP

Latitude 35.35°
 Inclination (Max) Low altitude test

Latitude
 Inclination (Max)

Latitude
 Inclination (Max)

Downrange
 0.00 km
 0.25 km

Link 3

Telemetry Downlink
 Space Telemetry Station ER
 S-Band 2200 - 2290 MHz
 Band Edge (Lower) 2200 MHz
 Band Edge (Upper) 2290 MHz
 Band 90 MHz
 Center Frequency 2251.5 MHz
 Transmit Power 10 W
 Transmit Power 10 dBW
 Antenna Gain 0 dBi
 EIRP 10 dBW

Data Type Digital
 Modulation SQPSK

Data Rate 5000 kbps

FEC Type LDPC

Bandwidth Multiplier 0.90

Maximum Doppler (x 2) 3.755 kHz

Necessary Bandwidth 4488.692 kHz
 Necessary Bandwidth (Lower) 2249.256 MHz
 Necessary Bandwidth (Upper) 2253.744 MHz
 Power Spectral Density per 4 kHz -20.5 dBW/4 kHz

Emission Designator 4M48G1DCT

Polarization RHCP

Longitude 242.19°
 Altitude (Min) 1 km

Longitude
 Altitude (Min)

Longitude
 Altitude (Min)

Altitude
 1.07 km
 4.15 km

Link 4

Telemetry Downlink
 Space Telemetry Station ER
 S-Band 2200 - 2290 MHz
 Band Edge (Lower) 2200 MHz
 Band Edge (Upper) 2290 MHz
 Band 90 MHz
 Center Frequency 2273.5 MHz
 Transmit Power 10 W
 Transmit Power 10 dBW
 Antenna Gain 0 dBi
 EIRP 10 dBW

Data Type Analog
 Modulation FM/NTSC

Maximum Doppler (x 2) 3.792 kHz

Necessary Bandwidth 5753.692 kHz
 Necessary Bandwidth (Lower) 2270.623 MHz
 Necessary Bandwidth (Upper) 2276.377 MHz
 Power Spectral Density per 4 kHz -21.6 dBW/4 kHz

Emission Designator 5M75F8FNN

Polarization RHCP

Elevation 1.07 km
 Altitude (Max) 4.15 km

Elevation
 Altitude (Max)

Elevation
 Altitude (Max)

Latitude
 35.35°
 35.35°

Longitude
 242.19°
 242.19°