

# VECTOR

V=CTOR

FCC File Number

FCC Point of Contact

FCC Date Received

Approved Callsign

Leann Nguyen

FCC POC

FCC POC Agency

FCC POC Agency

Applicant POC1

Applicant POC2

Applicant Company

Applicant Address

Applicant Info

Stopbuzzer

Name

Name

Street

Name

Name

Street

FRN

Number

Leann Nguyen

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Christopher Timperio

Matt Baker

Vector Launch Inc.

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Title

Title

City

Title

Title

City

CAGEC

Engineer

Director - Avionics

Washington

RF Engineer

Director - Avionics

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20554

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92649

080264639

License Type

Experimental (STA)

For

Launch Vehicle

Series

Vector-R

Category

Block-0.101

Number of Links

2

Link 1

Telemetry Downlink

Space Telemetering Space Station ER

S-Band

2360-2390

Band Edge (Lower)

2360 MHz

Band Edge (Upper)

2390 MHz

Band

30 MHz

Center Frequency

2370.5 MHz

Polarization

Linear

Transmit Power

10 W

Transmit Power

10 dBW

Antenna Gain

0 dBi

EIRP

10 dBW

Data Type

Digital

Modulation

50QPSK

Data Rate

2000 kbps

FEC Type

LDPC

Bandwidth Multiplier

0.90

Link 2

Telemetry Downlink

Space Telemetering Space Station ER

S-Band

2360-2390

Band Edge (Lower)

2360 MHz

Band Edge (Upper)

2390 MHz

Band

30 MHz

Center Frequency

2382.5 MHz

Polarization

Linear

Transmit Power

10 W

Transmit Power

10 dBW

Antenna Gain

0 dBi

EIRP

10 dBW

Data Type

Digital

Modulation

50QPSK

Data Rate

10000 kbps

FEC Type

RNRZ-L-15

Bandwidth Multiplier

0.78

PSD Bandwidth

1794.000

Power Spectral Density per 4 kHz

-16.5 dBW/4 kHz

Maximum Approach Velocity

7500 m/s

Maximum Doppler ( x 2 )

118.606 kHz

Necessary BW (including Doppler)

1912.606 kHz

BW (incl margin)

1920.000 kHz

Necessary Bandwidth (Lower)

2369.540 MHz

Necessary Bandwidth (Upper)

2371.460 MHz

Transmitter Manufacturer

Quasonix

Transmitter Model Number

QSX-VSH2-1100

PSD Bandwidth

7800.000

Power Spectral Density per 4 kHz

-22.9 dBW/4 kHz

Maximum Doppler ( x 2 )

119.206 kHz

Necessary Bandwidth

7918.606 kHz

BW (incl margin)

8000.000 kHz

Necessary Bandwidth (Lower)

2378.500 MHz

Necessary Bandwidth (Upper)

2386.500 MHz

Transmitter Manufacturer

Quasonix

Transmitter Model Number

QSX-VSR2-1100

Emission Designator

1M92G1D

Launch Site

Name

Inclination (Min)

Mid-Atlantic Regional Spaceport (MARS)

60°

Latitude

37.8280°

Inclination (Max)

90°

Longitude

-75.4939°

Altitude (Min)

13 m

Elevation

1 m

Altitude (Max)

3.57 km

Launch Site

Name

Inclination (Min)

Pacific Spaceport Complex Alaska (PSCA)

60°

Latitude

57.4350°

Inclination (Max)

90°

Longitude

-152.3417°

Altitude (Min)

42 m

Elevation

30 m

Altitude (Max)

3.57 km

Launch Site

Name

Inclination (Min)

Vandenberg Air Force Base (VAFB)

60°

Latitude

34.5763°

Inclination (Max)

90°

Longitude

-120.6325°

Altitude (Min)

130 m

Elevation

118 m

Altitude (Max)

3.71 km

Launch Site

Name

Inclination (Min)

Cape Canaveral Air Force Station

60°

Latitude

28.5834°

Inclination (Max)

90°

Longitude

-80.5829°

Altitude (Min)

18 m

Elevation

4 m

Altitude (Max)

3.56 km

Launch Site

Name

Inclination (Min)

Friends of Amateur Rocketry (FAR)

60°

Latitude

35.3475°

Inclination (Max)

90°

Longitude

-117.8094°

Altitude (Min)

639 m

Elevation

627 m

Altitude (Max)

4.37 km

Launch Site

Name

Inclination (Min)

Vector Arizona Test Site (ATS)

60°

Latitude

35.5122°

Inclination (Max)

90°

Longitude

-111.2999°

Altitude (Min)

591 m

Elevation

579 m

Altitude (Max)

4.33 km

Launch Site

Name

Inclination (Min)

NASA's Kennedy Space Center (KSC)

60°

Latitude

28.4583°

Inclination (Max)

90°

Longitude

-80.5286°

Altitude (Min)

13 m

Elevation

1 m

Altitude (Max)

3.60 km

Launch Site

Name

Inclination (Min)

Spaceport Camden

60°

Latitude

30.9337°

Inclination (Max)

90°

Longitude

-81.5183°

Altitude (Min)

15 m

Elevation

3 m

Altitude (Max)

3.56 km

Timeline (Typical) | (HH:MM:SS:MS)

Time

Event

Downrange

Crossrange

Altitude

Qbar (psf)

T+00:00:00:00

Liftoff

0.006 km

0.00 km

0.00 km

0.05

T+00:00:21:95

Max Q

0.294 km

2.37 km

2.31 km

529.57

T+00:00:21:95

Main Engine Cut-Off (MECO)

0.294 km

2.37 km

2.31 km

529.57

T+00:00:29:43

Stage Separation

0.522 km

3.58 km

3.43 km

40.91

T+00:00:34:53

Apogee

0.607 km

3.67 km

3.57 km

4.04

T+00:01:30:70

Stage Impact

0.915 km

1.22 km

0.00 km

53.00