

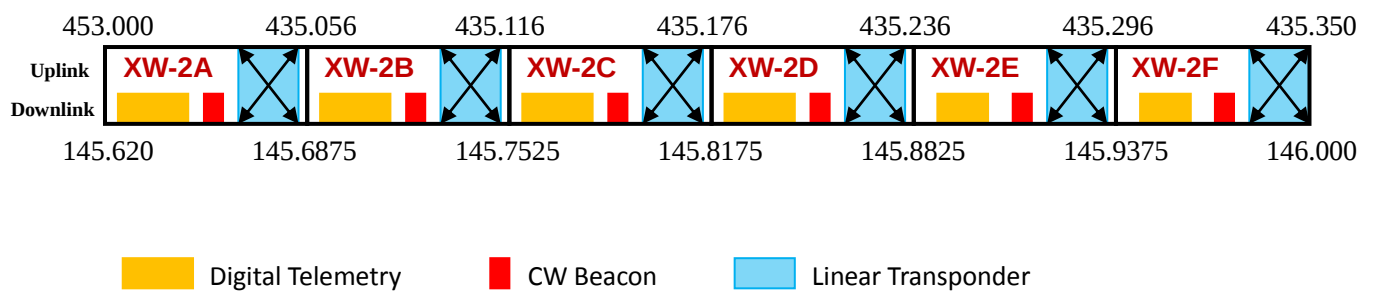
# XW-2(CAS-3) Satellites Frequency Allocation

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## 1. Antenna:

XW-2A through XW-2F are using the exact same type of antenna, they are quarter wavelength deployable monopole whip antennas and made of steel tape, Including a UHF uplink antenna and a VHF downlink antenna for each satellite.

## 2. Frequency Allocation Diagram:



## 3. XW-2 series of satellites:

Uplink:

| Satellite      | Frequency (MHz)   | Bandwidth (kHz) | Application                                |
|----------------|-------------------|-----------------|--------------------------------------------|
| XW-2A (CAS-3A) | 435.030 - 435.050 | 20              | Linear Transponder<br>(Spectrum Inverting) |
| XW-2B (CAS-3B) | 435.090 - 435.110 |                 |                                            |
| XW-2C (CAS-3C) | 435.150 - 435.170 |                 |                                            |
| XW-2D (CAS-3D) | 435.210 - 435.230 |                 |                                            |
| XW-2E (CAS-3E) | 435.270 - 435.290 |                 |                                            |
| XW-2F (CAS-3F) | 435.330 - 435.350 |                 |                                            |

**Downlink:**

| Satellite                 | Application        | Frequency (MHz)   | Bandwidth (kHz) | RF Power (dBm) | Modulation         |
|---------------------------|--------------------|-------------------|-----------------|----------------|--------------------|
| <b>XW-2A<br/>(CAS-3A)</b> | Digital Telemetry  | 145.640           | 30              | 20             | 9.6/19.2kbps, GMSK |
|                           | CW Beacon          | 145.660           | 0.1             | 17             | 22wpm, CW          |
|                           | Linear Transponder | 145.665 - 145.685 | 20              | 20             |                    |
| <b>XW-2B<br/>(CAS-3B)</b> | Digital Telemetry  | 145.705           | 30              | 20             | 9.6/19.2kbps, GMSK |
|                           | CW Beacon          | 145.725           | 0.1             | 17             | 22wpm, CW          |
|                           | Linear Transponder | 145.730 - 145.750 | 20              | 20             |                    |
| <b>XW-2C<br/>(CAS-3C)</b> | Digital Telemetry  | 145.770           | 30              | 20             | 9.6/19.2kbps, GMSK |
|                           | CW Beacon          | 145.790           | 0.1             | 17             | 22wpm, CW          |
|                           | Linear Transponder | 145.795 - 145.815 | 20              | 20             |                    |
| <b>XW-2D<br/>(CAS-3D)</b> | Digital Telemetry  | 145.835           | 30              | 20             | 9.6/19.2kbps, GMSK |
|                           | CW Beacon          | 145.855           | 0.1             | 17             | 22wpm, CW          |
|                           | Linear Transponder | 145.860 - 145.880 | 20              | 20             |                    |
| <b>XW-2E<br/>(CAS-3E)</b> | Digital Telemetry  | 145.890           | 16              | 20             | 9.6kbps, GMSK      |
|                           | CW Beacon          | 145.910           | 0.1             | 17             | 22wpm, CW          |
|                           | Linear Transponder | 145.915 - 145.935 | 20              | 20             |                    |
| <b>XW-2F<br/>(CAS-3F)</b> | Digital Telemetry  | 145.955           | 16              | 20             | 9.6kbps, GMSK      |
|                           | CW Beacon          | 145.975           | 0.1             | 17             | 22wpm, CW          |
|                           | Linear Transponder | 145.980 - 146.000 | 20              | 20             |                    |

**4. CAS-3 series of other satellites:**

| Satellite                          | Emission direction | Application       | Frequency (MHz) | Bandwidth (kHz) | Modulation    |
|------------------------------------|--------------------|-------------------|-----------------|-----------------|---------------|
| <b>DCBB<br/>(CAS-3G)</b>           | Downlink           | Digital Telemetry | 145.475         | 16              | 9.6kbps, GMSK |
|                                    |                    |                   | 437.950         |                 |               |
| <b>LilacSat -2<br/>(CAS-3H)</b>    | Uplink             | APRS              | 144.390         | 16              | AFSK          |
|                                    |                    | FM Transponder    | 144.350         | 16              | FM            |
|                                    | Downlink           | APRS              | 144.390         | 16              | AFSK          |
|                                    |                    | CW Beacon         | 437.200         | 0.1             | CW            |
|                                    |                    | FM Transponder    | 437.225         | 16              | FM            |
| <b>NUDT-Phone-Sat<br/>(CAS-3I)</b> | Downlink           | Digital Telemetry | 437.300         | 28              | 9.6kbps, FSK  |