



NEWSLETTER-AMSAT-EA

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Translation by Fernando EC1AME



TEVEL Satellites

On January 13, the Tevel mission, which consists of 8 satellites developed by the Herzliya Sciences Center in Israel, each with a FM transponder, were launched on the SpaceX Falcon-9 Transporter-3 mission.

Tevel-1, Tevel-2....Tevel-8

- Beacon transmissions on 436.400 MHz, (9600bps BPSK G3RUH)
- Uplink of the FM transponders: 145.970 MHz
- Downlink of FM transponders: 436.400MHz



Tevel satellite under development.
credit: Herzliya Science Center

All 8 satellites use the same frequencies, so while the tracks overlap, only one FM transponder will be activated. The satellites were built by 8 schools in different parts of Israel.

IARU satellite frequency coordination information

http://www.amsatuk.me.uk/iaru/finished_detail.php?serialnum=744

Designation Oscar Hades and EASAT-2

AMSAT EA received on January 13 two OSCAR designations: SO-114 and SO-115. The EASAT-2 and HADES satellites were launched by a Falcon 9 from the Kennedy Space Center in Florida.

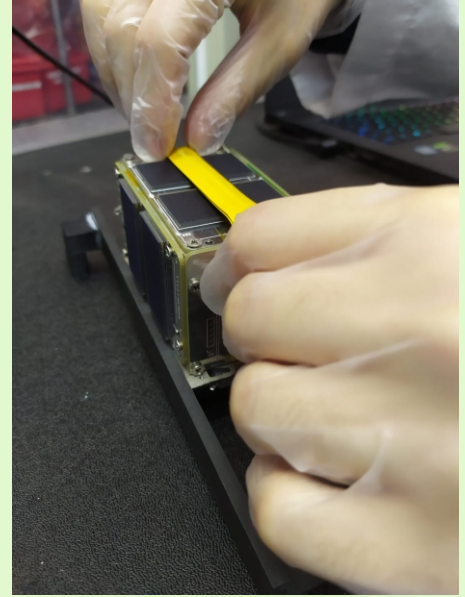
They were developed by AMSAT EA and both sats carry FM payloads and digital repeaters to be used by hams all around the planet.



At the request of AMSAT-EA, AMSAT designates EASAT-2 as Spain-OSCAR 114 (SO-114) and HADES as Spain-OSCAR 115 (SO-115).

Our EASAT-2 and Hades satellites were successfully launched into space on Thursday Jan. 13 from Cape Cañaveral and, although there was uncertainty at first because the information was confusing, a correct launch was finally confirmed.

Signals have been received from both satellites and it has been possible to decode EASAT-2 telemetry, CW and voice beacon. We hope to be able to decode telemetry from Hades soon, but seeing the pattern of its transmissions we understand that it is operating well.



It was Daniel EA4GPZ, who has managed to make the first recording that has shown that both satellites were working. He has used an antenna at the ATA radio telescope in California. A superb help from Daniel.

All details in the news section of the web:

<https://www.amsat-ea.org/>

Here are the links to the sources:

EASAT-2 Confirmation:

<https://twitter.com/ea4gpz/status/1482457631566487553>

HADES Confirmation:

<https://twitter.com/ea4gpz/status/1482696274797338625>

Telemetry and voice beacon decoding:

<https://twitter.com/gaoterop/status/1482758196037050382>

The signals are weak on both satellites, because, we are sure, the antennas have not yet been deployed. We say still, because the on-board computer will keep trying periodically to solve this. If this doesn't work, we hope that the thread will break by itself at some point, although this may take weeks or months. In any case, both satellites have been running for several days and their condition at the moment seems stable. If they continue to work fine, sooner or later, we will be able to use the repeaters and get some images from the SSTV camera in Hades.

Other receptions have been achieved but they are also with antennas of very high gain and good preamps. Until the antennas of the satellites are

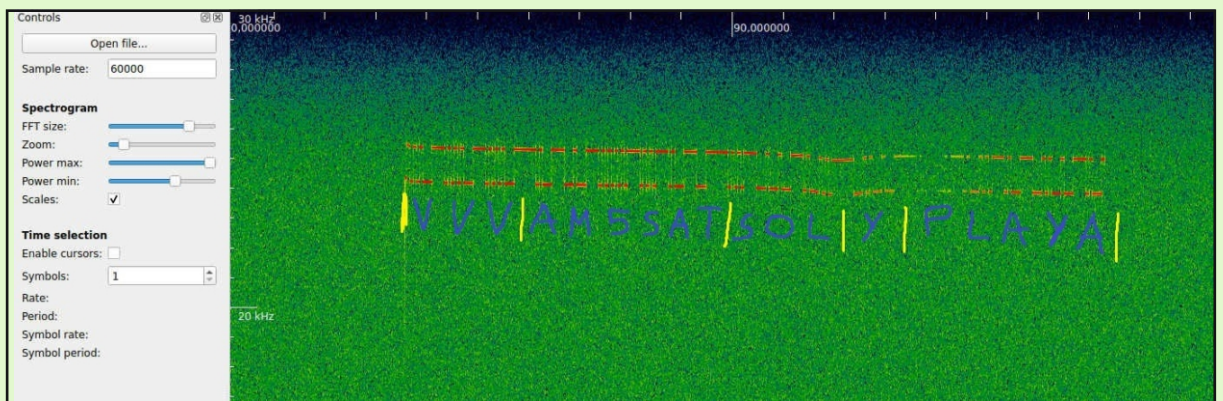
not deployed, it will be difficult to receive them. However you are encouraged to try.

At the European University they are also very happy. Joanna, David EA4SG and I were there representing AMSAT-EA watching the live launch in their facilities together with teachers and students and, Of course, it was a very exciting moment since it concludes a work of several years and many people.

We take this opportunity to thank all of you who are doing recordings of the passes, trying the reception and collecting information (especial thanks go to José EB1AO, David EA4SG, Juan Antonio EA4CYQ, Juan Carlos EA5WA and Manolo EA5TT), although there are many more of you there.

I leave you this link that we have not yet published, of the program 'A Hombros de Gigantes' of Radio Nacional de España in which we talk about our satellites and especially the CSIC experiment with basalt rock that is on board the EASAT-2:

<https://www.rtve.es/play/audios/a-hombros-de-gigantes/hombros-gigantes-xenotrasplante-lanzarote-espacio-16-01-22/6290561/>



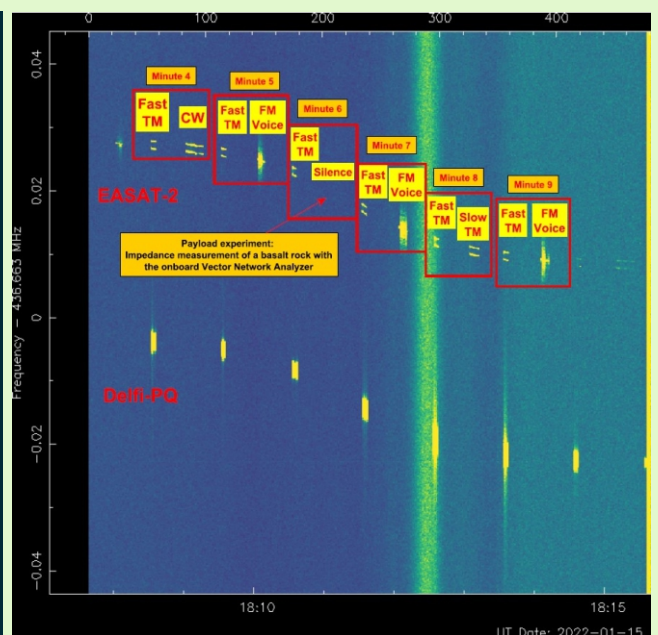
EASAT-2 CW decoding received by EA4GPZ, Daniel Estevez

VARIABLE	RAW	VALUE	DESCRIPTION
ixp	82	560 uA	corriente panel XP
bb	96	44 mV	detector de cuadratura, filtrado
iyx	70	400 uA	corriente panel YP
iyz	86	640 uA	corriente panel YN
izp	57	240 uA	corriente panel ZP
izn	0	0 uA	corriente panel ZN
vbat	652	3615 mV	tension en bornes de la bateria
vbus	670	3715 mV	tension en el bus principal
vcpu	277	3705 mV	tension en la cpu
vmpt	360	2 0	dac 3bit estados MPPT
dul	224	224 mV	detector de envoltente, instantaneo
dac		22 div	control de ganancia receptor

VARIABLE	RAW	VALUE	DESCRIPTION
ixp	102	1000 uA	corriente panel XP
bb	140	158 mV	detector de cuadratura, filtrado
iyx	50	200 uA	corriente panel YP
iyz	44	160 uA	corriente panel YN
izp	10	0 uA	corriente panel ZP
izn	0	0 uA	corriente panel ZN
vbat	656	3637 mV	tension en bornes de la bateria
vbus	669	3709 mV	tension en el bus principal
vcpu	322	3256 mV	tension en la cpu
vmpt	304	1 0	dac 3bit estados MPPT
dul	211	211 mV	detector de envoltente, instantaneo
dac		24 div	control de ganancia receptor

VARIABLE	RAW	VALUE	DESCRIPTION
ixp	85	640 uA	corriente panel XP
bb	109	64 mV	detector de cuadratura, filtrado
iyx	51	200 uA	corriente panel YP
iyz	67	360 uA	corriente panel YN
izp	26	80 uA	corriente panel ZP
izn	0	0 uA	corriente panel ZN
vbat	651	3610 mV	tension en bornes de la bateria
vbus	608	3371 mV	tension en el bus principal
vcpu	308	3404 mV	tension en la cpu
vmpt	321	1 0	dac 3bit estados MPPT
dul	210	210 mV	detector de envoltente, instantaneo
dac		29 div	control de ganancia receptor

Telemetry received by EA4GPZ



EA4GPZ reception

PORTABLE STATION OF THE MONTH (EC3TZ-Vicent)



iii 335 unique stations !!!

Day	Grid	QSOs
09/01/2022	JN00	70
09/01/2022	IN90	112
08/01/2022	JM09	145
08/01/2022	JM08	83
07/01/2022	IM88	122
07/01/2022	IM78	82
06/01/2022	IM86	144
06/01/2022	IM96	118
05/01/2022	IM97	128
05/01/2022	IM89	91
TOTAL	10	1095

AMSAT-EA products in the URE store

For several weeks you have at your disposal several products of AMSAT-EA personalized with your callsign on the URE website.



*Don't hesitate
Support AMSAT-EA*