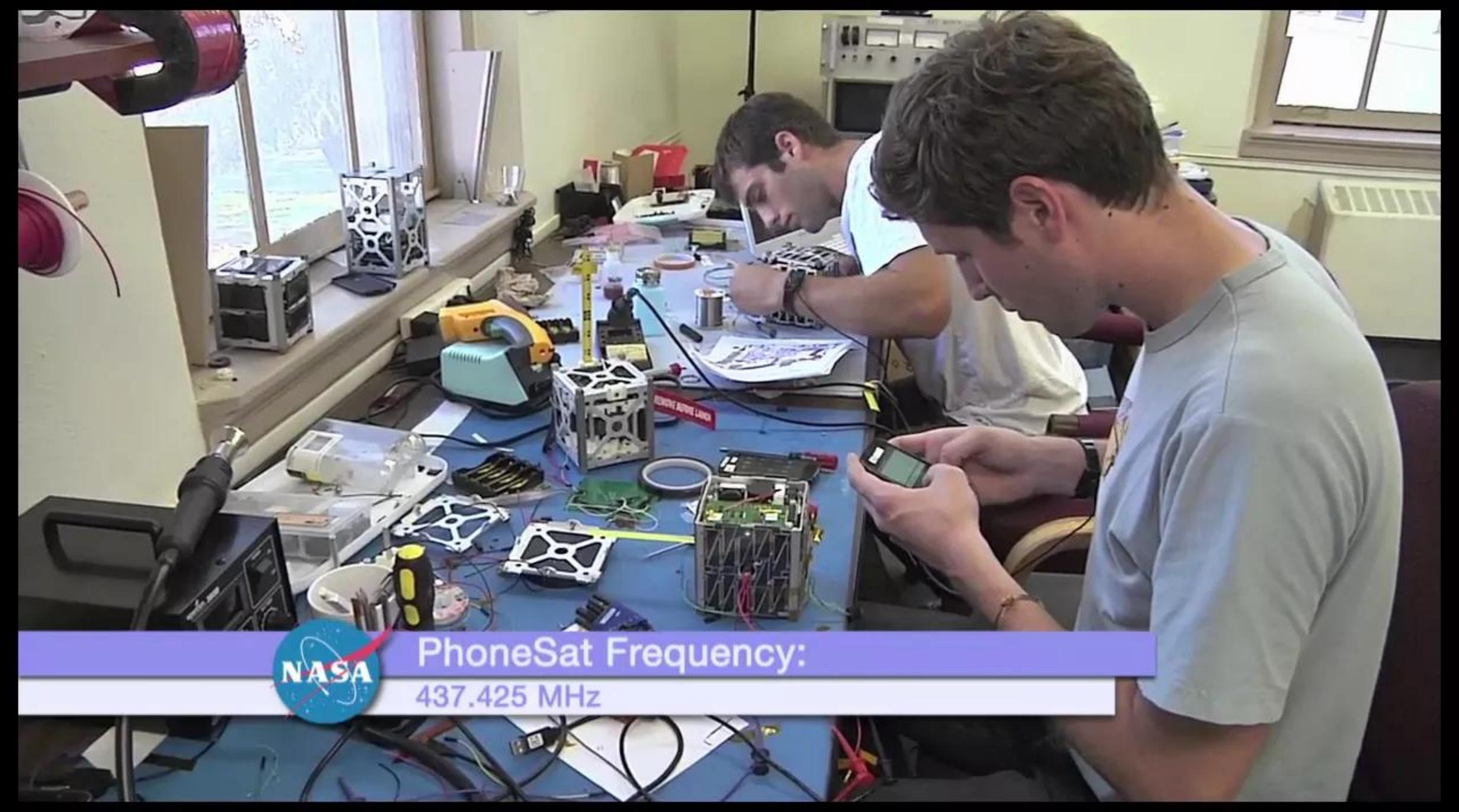PhoneSat Frequency:
437.425 MHz

1
00:00:00,000 --> 00:00:03,210
Narrator: The Orbital Sciences Corporation test

2
00:00:03,230 --> 00:00:05,950
flight of the Antares rocket will be carrying a

3
00:00:05,970 --> 00:00:09,270
very small secondary payload into space.

4
00:00:09,290 --> 00:00:11,580
Onboard are three nanosatellites that were

5
00:00:11,600 --> 00:00:14,260
designed and built at NASA Ames Research Center,

6
00:00:14,280 --> 00:00:17,490
the lead center for small spacecraft development.

7
00:00:17,510 --> 00:00:20,160
Two of the cubesats are called "PhoneSat-1" and

8
00:00:20,180 --> 00:00:23,080
one of them is a "PhoneSat-2 Beta."

9
00:00:23,100 --> 00:00:24,780
Jim Cockrell: Someone here asked the question

10
00:00:24,800 --> 00:00:28,650
"Can we fly a cell phone as the avionics for a satellite?

11
00:00:28,670 --> 00:00:30,990
And have something that's very capable but really,

12
00:00:31,010 --> 00:00:32,910
really inexpensive?"

13
00:00:32,930 --> 00:00:34,960

So, PhoneSat was launched to try

14
00:00:34,980 --> 00:00:36,570
to answer that question.

15
00:00:36,590 --> 00:00:38,610
Narrator: Measuring only 4 inches on each side

16
00:00:38,630 --> 00:00:40,670
and weighing less than four pounds,

17
00:00:40,690 --> 00:00:42,970
each miniaturized satellite was built for only

18
00:00:42,990 --> 00:00:46,090
3500 dollars each and will showcase the ability

19
00:00:46,110 --> 00:00:49,380
to launch the lowest-cost, easiest-to-build satellite

20
00:00:49,400 --> 00:00:51,850
ever flown in space.

21
00:00:51,870 --> 00:00:53,720
The design makes extensive use of

22
00:00:53,740 --> 00:00:55,430
commercial-off-the-shelf components,

23
00:00:55,450 --> 00:00:58,330
including a consumer-grade smartphone.

24
00:00:58,350 --> 00:01:00,720
Out-of-the-box smartphones offer capabilities

25
00:01:00,740 --> 00:01:03,870
needed for satellites, including fast processors,

26
00:01:03,890 --> 00:01:06,440
versatile operating systems, multiple miniature

27
00:01:06,460 --> 00:01:10,170
sensors, high-resolution cameras, GPS receivers

28
00:01:10,190 --> 00:01:12,380
and several radios.

29
00:01:12,400 --> 00:01:14,360
Jim Cockrell: The smartphone vendors have put a

30
00:01:14,380 --> 00:01:17,470
lot of R & D money into making very, very capable

31
00:01:17,490 --> 00:01:18,910
microprocessors.

32
00:01:18,930 --> 00:01:21,210
They have a lot of processing power and speed

33
00:01:21,230 --> 00:01:23,820
in a package that's very rugged.

34
00:01:23,840 --> 00:01:25,830
And we intend to fly it as a microprocessor

35
00:01:25,850 --> 00:01:27,690
for a satellite.

36
00:01:27,710 --> 00:01:30,020
Narrator: NASA's PhoneSat 1.0 is built around the

37
00:01:30,040 --> 00:01:33,850
Nexus One smartphone while PhoneSat 2.0 Beta has

38
00:01:33,870 --> 00:01:37,500

improved software and more sensors.

39
00:01:37,520 --> 00:01:40,180
Upon deployment into space, each satellite will

40
00:01:40,200 --> 00:01:42,890
broadcast a signal every 30 seconds on the amateur

41
00:01:42,910 --> 00:01:47,350
UHF band at 437.425 megahertz.

42
00:01:47,370 --> 00:01:50,050
The PhoneSat Project will be a success if NASA

43
00:01:50,070 --> 00:01:53,060
confirms reception of signals from the cubesats,

44
00:01:53,080 --> 00:01:55,450
however anyone around the world can listen for

45
00:01:55,470 --> 00:01:57,830
this signal and upload what they hear to

46
00:01:57,850 --> 00:02:02,780
www.phonesat.org.