

**Exhibit C**  
**PETITION FOR WAIVER OF SECTION 25.137 AND 25.114 AND OF**  
**THE U.S. TABLE OF FREQUENCY ALLOCATIONS**

**I. TO THE EXTENT THEY APPLY, GOOD CAUSE EXISTS FOR A WAIVER OF CERTAIN PORTIONS OF SECTIONS 25.137 AND 25.114**

Universal Space Network, Inc. (USN) is provided limited legal and technical information for the GALILEO (GAL1 AND GAL2) Satellites.<sup>1</sup> Pursuant to Section 25.137 of the Federal Communications Commission's ("Commission" or "FCC") rules, the same technical information required by Section 25.114 for U.S.-licensed space station, and certain legal information, must be submitted by earth station applicants "requesting authority to operate with a non-U.S. licensed space station to serve the United States..."<sup>2</sup> USN seeks authority to support the needed Telemetry, Tracking, and Control ("TT&C") during launch and early orbit support ("LEOP") of the GALILEO (GAL1 AND GAL2) spacecraft from launch to medium earth orbit, not commercial service to the United States, and thus believes that Section 25.137 does not apply.

To the extent the Commission determines, however, that USN's request for authority to provide LEOP on a special temporary basis is a request to serve the United States with a non-U.S.-licensed satellite, USN respectfully requests a waiver of Sections 25.137 and 25.114 of the Commission's rules, to the extent that USN has not herein provided the information required by these rules.<sup>3</sup> The Commission may grant a waiver for good cause shown.<sup>4</sup> A waiver is therefore appropriate if special circumstances warrant a deviation from the general rule, and such a deviation will serve the public interest.

In this case, good cause for a waiver of portions of Section 25.114 exists. USN seeks authority only to conduct LEOP support for GALILEO (GAL1 AND GAL2). Thus, any information sought by Section 25.114 that is not relevant to the LEOP – e.g., antenna patterns, energy and propulsion and orbital debris - USN does not have. In addition, USN would not easily be able to obtain such information because USN is not the operator of the GALILEO (GAL1 AND GAL2) satellites, nor is USN in contractual privity with that operator. Rather, USN has contracted with Swedish Space Corporation, Solna Sweden (SSC) to support the Launch and Early Orbit (LEOP) portion in S-Band of the satellite prior to its operation.

As evidenced by the Comsearch report attached to this request, USN has coordinated the LEOP of the GALILEO (GAL1 AND GAL2) satellites with potentially affected terrestrial operators. Moreover, as with any STA, USN will conduct the LEOP on an unprotected, non-interference basis to government operations.

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<sup>1</sup> FCC Form 312 Section B

<sup>2</sup> 47 C.F.R. § 25.137(a)

<sup>3</sup> 47 C.F.R. §§25.137 and 25.114

<sup>4</sup> 47 C.F.R. §1.3

Because it is not relevant to the service for which USN seeks authorization, and because obtaining the information would be a hardship, USN seeks a waiver of all the technical and legal information required by Section 25.114, to the extent it is not provided herein. As noted above, USN has provided the required information to the extent that it is relevant to the LEOP service for which USN seeks authorization.

Good cause also exists to waive portions of Section 25.137, to the extent the information required is not herein provided. Section 25.137 is designed to ensure that “U.S.-licensed satellite systems have effective competitive opportunities to provide analogous services” in other countries. Here, there is no service being provided by the satellite; USN is providing TT&C while the satellite is on the way to its medium earth orbit. Thus, the purpose of the information required by Section 25.137 is not implicated here. For example, Section 25.137(d) requires earth station applicants requesting authority to operate with a non-U.S.-licensed space station that is not in orbit and operating to post a bond.<sup>5</sup> The underlying purpose in having to post a bond – i.e., to prevent warehousing of orbital locations by operators seeking to serve the United States – would not be served by requiring USN to post a bond in order to conduct 60 days of LEOP support of the GALILEO (GAL1 AND GAL2) satellite.

It is USN’s understanding that GALILEO (GAL1 AND GAL2) is licensed by ESA (European Space Agency). GALILEO (GAL1 AND GAL2) are the first two spacecraft of the European navigation constellation. The spacecraft family is primarily meant to serve the EU. Thus, the purpose of Section 25.137 – to ensure that U.S. satellite operators enjoy “effective competitive opportunities” to serve foreign markets and to prevent warehousing of orbital locations service the United States – will not be undermined by grant of this waiver request.

Finally, USN notes that it expects to communicate with the GALILEO (GAL1 AND GAL2) satellite using its U.S. earth station for a period of 60 days. Requiring USN to obtain technical and legal information from an unrelated party, where there is no risk of interference and the operation will cease within 60 days would pose undue hardship without serving underlying policy objectives. Given these particular facts, the waiver sought herein is appropriate.

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<sup>5</sup> 47 C.F.R. §25.137(d)(4)

## **II. GOOD CAUSE EXISTS FOR A WAIVER OF THE UNITED STATES TABLE OF FREQUENCY ALLOCATIONS**

USN further requests a waiver of the United States Table of Frequency Allocations ("U.S. Table") as described in section 2.106 of the rules for the frequency bands 2025 – 2110 MHz (Earth-to-Space) and 2200 – 2290 MHz (Space-to-Earth).<sup>6</sup> Section footnotes allow for non-federal Government use of these bands in the United States on a case-by-case non-interference basis. Such use by USN necessitates a waiver of the U.S. Table.

Good cause exists to grant USN a limited waiver of the U.S. Table to allow LEOP of the GALILEO (GAL1 AND GAL2) satellites. In considering request for case-by-case spectrum uses, the Commission has indicated that it would generally grant such waivers "where there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the case-by-case operator accepts any interference from authorized services."<sup>7</sup> USN will coordinate with other parties operating communication systems in compliance with the Table of Frequency Allocations to ensure that no harmful interference is caused. USN seeks to operate only pursuant to special temporary authorization and thus agrees to accept any interference from authorized services. In summary, USN's operation on a non-interference, non-protected basis support waiver of the U.S. Table.

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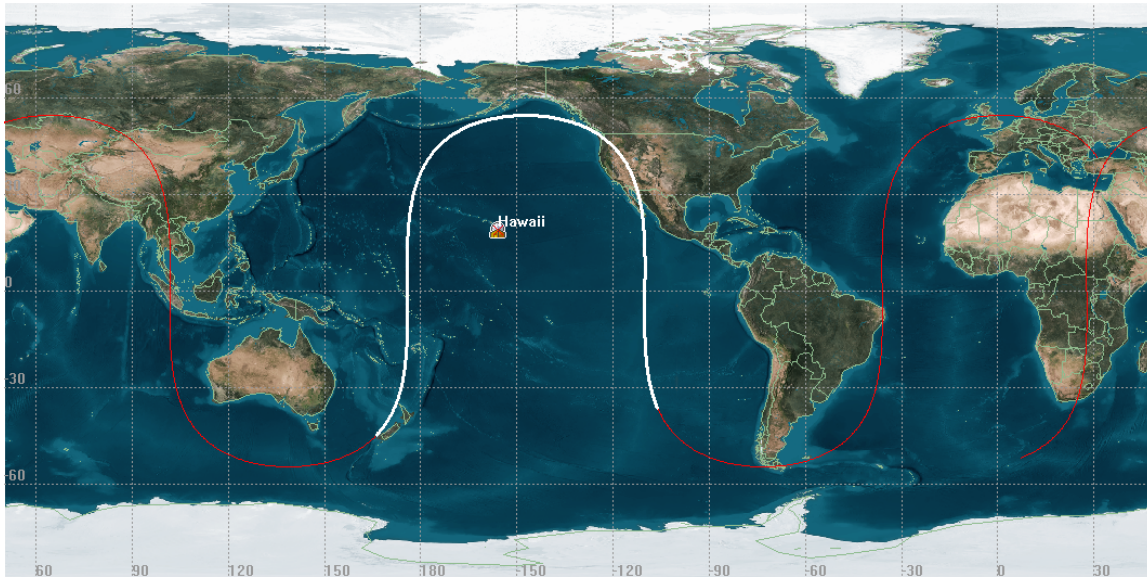
<sup>6</sup> 47 C.F.R. §2.106

<sup>7</sup> Previously approved STA's for Universal Space Network SES-STA-20020725-01174; SES-STA-20021112-02008; SES-STA-20040315-00475

## LEOP support of Galileo-IOV (GAL1 and GAL2) from USN's Hawaii ground station

Galileo-IOV is the first launch and In Orbit Validation of the Galileo navigation constellation for the EU. The first launch consists of 2 spacecraft (GAL1 and GAL2) that will be launched from French Guiana on a Soyuz vehicle on October 20<sup>th</sup>, 2011 at 10:34UTC. USN has been contracted to support the Galileo spacecraft LEOP(s) for a period of up to 60 days. The first 27 days being critical support.

The spacecraft(s) are a Medium Earth Orbiting (MEO) spacecraft in a high mid-latitude orbit (56 degrees) with a near circular orbit of altitude of 23138 Km. This orbit allows a nominal 1 visibility over the USN Hawaii station every day. Each spacecraft contact is on the order of 3 to 15 hours.



GAL1 and GAL2 nominal orbit and Hawaii coverage

The spacecrafts will be supported from injection and six subsequent orbital maneuvers for spacing of GAL1 and GAL2. The below analysis covers all possible visibilities from USN Hawaii, but not all visibilities will be supported.

## GAL1 and GAL2 injection and coverage of pass#1

Both spacecraft are still in same antenna beamwidth after injection for the first pass and supported by selecting different RF frequencies. Both downlinks will be supported simultaneously during pass #1, then subsequent passes the spacecraft(s) begins to separate and are supported separately. Post maneuver TLE's and maximum visibilities are shown below for each event and each spacecraft.

	Downlink	Uplink
GAL1	2228.094 MHz	2051.703 MHz
GAL2	2234.232 MHz	2057.355 MHz

### GAL12-inj

1 12345U 11900A 11293.59995370 +.00000000 +00000-9 +60633-3 3 00000

2 12345 054.6817 129.7671 0006236 246.3143 356.0686 01.70367005000009

Access	Start Time (UTCG)	Stop Time (UTCG)
----- 1	----- 20 Oct 2011 16:40:14	----- 21 Oct 2011 03:52:26

## GAL1 Maneuvers and possible support times

### GAL1-maneuver #1

1 12345U 11900A 11294.59886777 +.00000000 +00000-9 +60795-3 3 00000

2 12345 054.6556 129.7719 0022904 149.9630 345.0742 01.69739642000000

Access	Start Time (UTCG)	Stop Time (UTCG)
----- 2	----- 22 Oct 2011 01:30:34	----- 22 Oct 2011 09:24:35
3	22 Oct 2011 11:35:39	22 Oct 2011 13:47:00

### GAL1-maneuver #2

1 12345U 11900A 11295.57447294 +.00000000 +00000-9 +60965-3 3 00005

2 12345 054.6277 129.7383 0018494 065.8619 305.3468 01.69032289000006

Access	Start Time (UTCG)	Stop Time (UTCG)
----- 4	----- 22 Oct 2011 13:47:00	----- 22 Oct 2011 16:44:20
5	23 Oct 2011 15:02:40	23 Oct 2011 15:53:00

**GAL1-maneuver #3**

1 12345U 11900A 11296.66233900 +.00000000 +00000-9 +60981-3 3 00001  
2 12345 054.6282 129.7081 0017558 058.2465 254.9726 01.68966946000003

Access	Start Time (UTCG)	Stop Time (UTCG)
6	23 Oct 2011 15:53:00	24 Oct 2011 01:56:43
7	24 Oct 2011 23:21:45	25 Oct 2011 08:15:57
8	25 Oct 2011 11:45:10	25 Oct 2011 15:15:40
9	26 Oct 2011 07:13:23	26 Oct 2011 09:20:25
10	26 Oct 2011 13:51:37	26 Oct 2011 23:45:38
11	27 Oct 2011 20:44:03	28 Oct 2011 07:06:16
12	28 Oct 2011 12:30:25	28 Oct 2011 13:14:36
13	29 Oct 2011 05:34:46	29 Oct 2011 09:42:37
14	29 Oct 2011 12:42:39	29 Oct 2011 21:12:26
15	30 Oct 2011 18:49:32	31 Oct 2011 05:54:29
16	1 Nov 2011 04:09:22	1 Nov 2011 09:48:10
17	1 Nov 2011 11:36:54	1 Nov 2011 19:25:00
18	2 Nov 2011 17:19:01	3 Nov 2011 04:40:06
19	4 Nov 2011 02:45:55	4 Nov 2011 09:39:02
20	4 Nov 2011 10:42:24	4 Nov 2011 17:55:20
21	5 Nov 2011 15:58:15	6 Nov 2011 03:21:36
22	7 Nov 2011 01:19:10	7 Nov 2011 08:55:25
23	7 Nov 2011 10:21:57	7 Nov 2011 16:31:15
24	8 Nov 2011 14:42:31	9 Nov 2011 01:55:35
25	9 Nov 2011 23:40:52	10 Nov 2011 07:52:00
26	10 Nov 2011 10:23:19	10 Nov 2011 15:07:14
27	11 Nov 2011 13:29:52	12 Nov 2011 00:13:06

**GAL1-maneuver #4**

1 12345U 11900A 11316.50068535 +.00000000 +00000-9 +61147-3 3 00002  
2 12345 054.6352 129.1627 0031116 354.4733 146.2560 01.69687645000002

Access	Start Time (UTCG)	Stop Time (UTCG)
28	12 Nov 2011 21:19:36	13 Nov 2011 06:38:25
29	13 Nov 2011 10:41:39	13 Nov 2011 13:24:10

**GAL1-maneuver #5**

1 12345U 11900A 11318.03322502 +.00000000 +00000-9 +61311-3 3 00002  
2 12345 054.6357 129.1202 0003276 332.9135 024.0352 01.70409017000008

Access	Start Time (UTCG)	Stop Time (UTCG)
30	14 Nov 2011 05:09:39	14 Nov 2011 08:25:08
31	14 Nov 2011 12:01:43	14 Nov 2011 20:46:46

**GAL1-maneuver #6**

1 12345U 11900A 11319.21986503 +.00000000 +00000-9 +61327-3 3 00007  
2 12345 054.6360 129.0871 0001700 276.6232 088.3197 01.70477777000003

Access	Start Time (UTCG)	Stop Time (UTCG)
32	15 Nov 2011 17:52:24	16 Nov 2011 04:47:00

After the above initial critical support of GAL1, USN may support for 30 more days on a non-critical basis. A subsequent analysis will be provided when the support requirements and times are known.

## GAL2 Maneuvers and possible support times

### GAL2-maneuver #1

1 12346U 11900B 11295.14958339 +.00000000 +00000-9 +60759-3 3 00006  
 2 12346 054.6801 129.7330 0022174 109.6279 004.3450 01.70022379000008

Access	Start Time (UTCG)	Stop Time (UTCG)
2	22 Oct 2011 03:35:00	22 Oct 2011 09:17:19
3	22 Oct 2011 11:38:02	22 Oct 2011 16:32:25

### GAL2-maneuver #2

1 12346U 11900B 11296.10901685 +.00000000 +00000-9 +60925-3 3 00000  
 2 12346 054.6283 129.7286 0019024 048.3462 292.8732 01.69479811000007

Access	Start Time (UTCG)	Stop Time (UTCG)
4	23 Oct 2011 14:46:05	24 Oct 2011 01:24:04

### GAL2-maneuver #3

1 12346U 11900B 11297.13804993 +.00000000 +00000-9 +60940-3 3 00005  
 2 12346 054.6283 129.7000 0016299 045.2035 203.8724 01.69410275000006

Access	Start Time (UTCG)	Stop Time (UTCG)
5	24 Oct 2011 22:23:56	25 Oct 2011 07:51:44
6	25 Oct 2011 12:00:34	25 Oct 2011 14:36:47
7	26 Oct 2011 06:26:59	26 Oct 2011 09:41:20
8	26 Oct 2011 13:21:46	26 Oct 2011 22:21:22
9	27 Oct 2011 19:35:59	28 Oct 2011 06:27:02
10	29 Oct 2011 04:40:30	29 Oct 2011 09:56:45
11	29 Oct 2011 12:01:32	29 Oct 2011 19:55:07
12	30 Oct 2011 17:41:24	31 Oct 2011 04:58:38
13	1 Nov 2011 03:00:04	1 Nov 2011 09:50:54
14	1 Nov 2011 10:54:52	1 Nov 2011 18:05:37
15	2 Nov 2011 16:04:04	3 Nov 2011 03:24:11
16	4 Nov 2011 01:14:46	4 Nov 2011 08:56:03
17	4 Nov 2011 10:36:31	4 Nov 2011 16:24:48
18	5 Nov 2011 14:34:15	6 Nov 2011 01:36:55
19	6 Nov 2011 23:05:57	7 Nov 2011 07:37:58
20	7 Nov 2011 10:46:05	7 Nov 2011 14:41:53

21	8 Nov 2011 06:42:35	8 Nov 2011 08:15:53
22	8 Nov 2011 13:08:35	8 Nov 2011 23:11:32
23	9 Nov 2011 19:59:08	10 Nov 2011 06:15:03
24	10 Nov 2011 11:37:13	10 Nov 2011 12:22:27
25	11 Nov 2011 04:38:25	11 Nov 2011 08:51:23
26	11 Nov 2011 11:46:05	11 Nov 2011 20:08:20

**GAL2-maneuver #4**

1 12346U 11900B 11316.13486360 +.00000000 +00000-9 +61031-3 3 00003  
 2 12346 054.6354 129.1747 0022684 089.4511 225.7005 01.69809274000007

Access	Start Time (UTCG)	Stop Time (UTCG)
27	12 Nov 2011 17:38:39	13 Nov 2011 04:43:58

**GAL2-maneuver #5**

1 12346U 11900B 11317.52333252 +.00000000 +00000-9 +61171-3 3 00003  
 2 12346 054.6358 129.1365 0002627 204.3342 239.6337 01.70424172000006

Access	Start Time (UTCG)	Stop Time (UTCG)
28	14 Nov 2011 02:41:44	14 Nov 2011 08:59:18
29	14 Nov 2011 10:17:50	14 Nov 2011 17:39:51

**GAL2-maneuver #6**

1 12346U 11900B 11318.83206951 +.00000000 +00000-9 +61183-3 3 00006  
 2 12346 054.6361 129.0996 0001568 257.0074 269.9264 01.70478263000004

Access	Start Time (UTCG)	Stop Time (UTCG)
30	15 Nov 2011 15:23:52	15 Nov 2011 23:58:00

After the above initial critical support of GAL2, USN may support for 30 more days on a non-critical basis. A subsequent analysis will be provided when the support requirements and times are known.