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September 14, 2010

## BY ELECTRONIC SUBMISSION

Satellite Division  
International Bureau  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

**Re: Panasonic Avionics Corporation; Amendment to Application for Blanket AES Operating Authority; File No. SES-LIC-20100805-00992, Call Sign E1000890**

Dear Sir or Madam:

Panasonic Avionics Corporation (“Panasonic”), through its attorneys, hereby submits supplemental information for association with the above-captioned application filed on August 5, 2010. The materials submitted herewith provide additional information regarding technical characteristics of the MELCO aeronautical mobile-satellite service (“AMSS”) aircraft earth station (“AES”) terminals, as well as coordination information received subsequent to the filing, and do not change the proposed operating parameters of the terminals. Out of an abundance of caution, Panasonic is filing this information as a minor amendment under Section 25.116 of the Commission’s Rules.

Specifically, Panasonic is submitting off-axis EIRP and off-axis EIRP spectral density tables, as well as expanded off-axis EIRP spectral density plots, for the MELCO terminal. Although the Commission has not yet adopted services rules and technical requirements for AMSS operations, similar

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September 14, 2010  
Page 2

information is required for analogous vehicle-mounted earth station (“VMES”) applications in Section 25.226 of the Rules.<sup>1</sup> This data should be associated with the application’s Technical Appendix. Panasonic also submits a coordination letter from Telesat that should be associated with Attachment B of the application.

Panasonic also anticipates submitting additional information (i.e., completion of coordination with NASA to protect TDRSS facilities) pursuant to Section 1.65 of the Commission’s Rules.

Please feel free to contact me with any questions you may have regarding this submission.

Sincerely,

Squire, Sanders & Dempsey L.L.P.

*/s/ Carlos M. Nalda*

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Carlos M. Nalda

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<sup>1</sup> Panasonic would note that it has limited information regarding the previously authorized MELCO terminal because the AES was developed by another entity for a prior AMSS system. The information that is available, and is submitted herewith, was sufficient to support prior Commission authorization of MELCO terminal operations.

# **TECHNICAL APPENDIX**

## **Appendix C**

## Appendix C. Antenna EIRP Spectral Density Plots and Table

Antenna EIRP spectral density (ESD) plots below depict expanded projection (0-90 deg.) of ESD along and perpendicular to the GSO arc is based on the example of maximum off-axis EIRP spectral density given in Application section 3.1.1.1. Off-Axis EIRP Spectral Density Control and shown in Figure 3 for a skew angle of 34 degrees.

Figure 1. Off-Axis ESD Along the GSO Arc

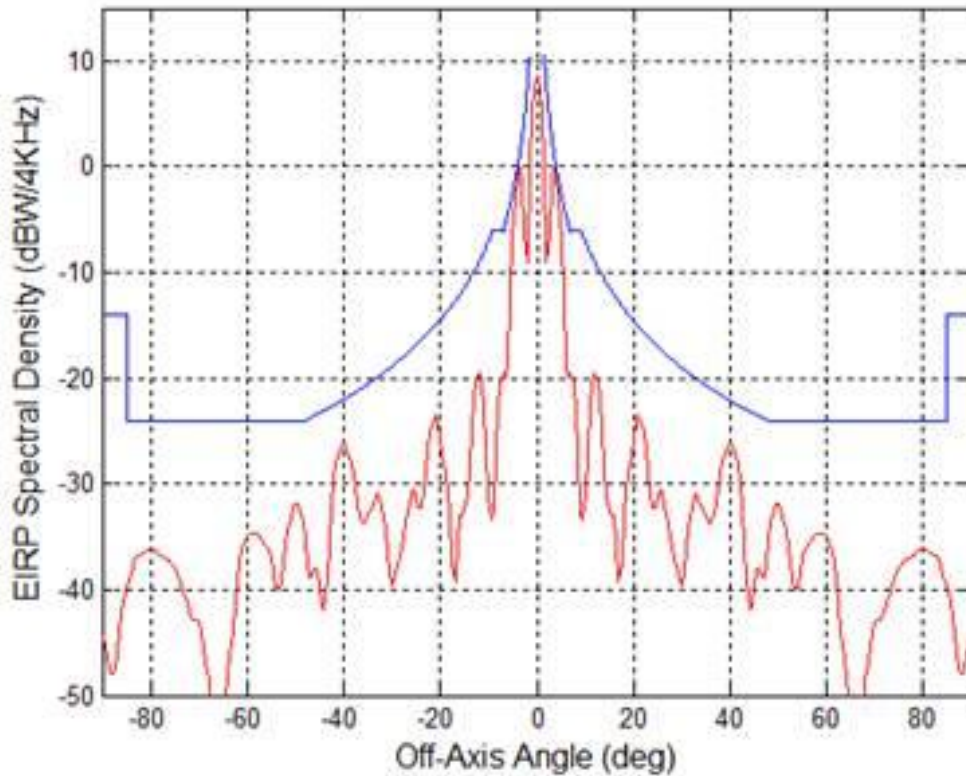
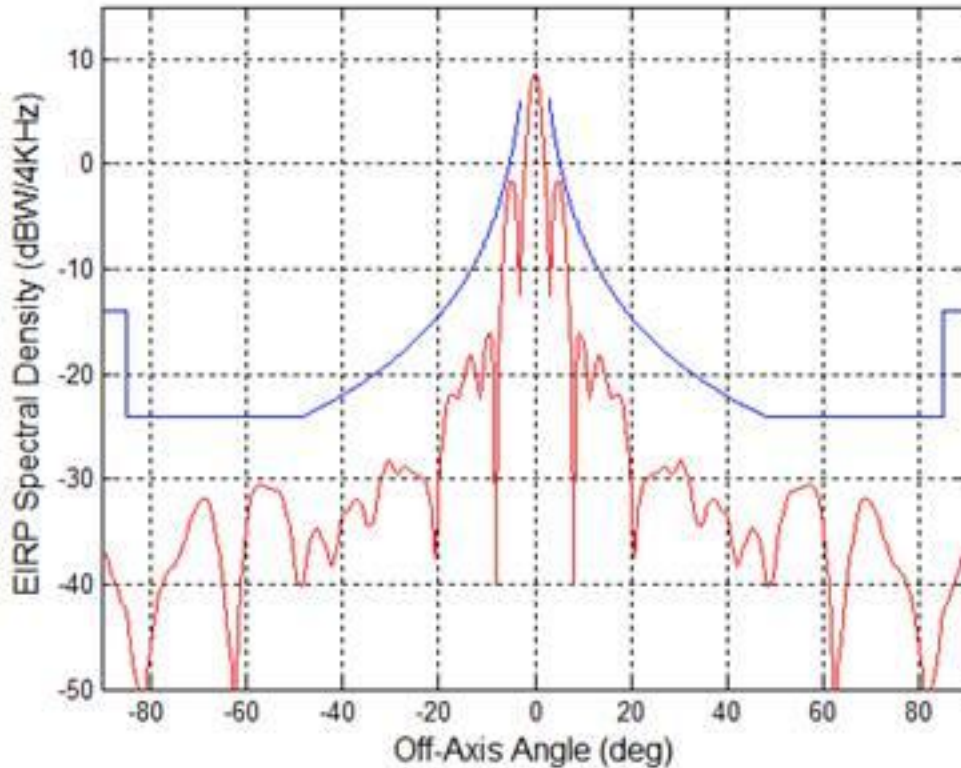


Figure 2. Off-Axis ESD Perpendicular to the GSO Arc



Antenna EIRP spectral density (ESD) tables are presented below for the proposed earth station antenna in the direction of the plane of the GSO, and the co-polarized ESD in the elevation plane, that is, the plane perpendicular to the plane of the GSO. Each column provides the ESD level at increments of 0.1° for angles between 0° and 10° off-axis, and at increments of 5° for angles between 10° and 180° off-axis. The projection of ESD along and perpendicular to the GSO arc is based on the example of maximum off-axis EIRP spectral density given in Application section 3.1.1.1. Off-Axis EIRP Spectral Density Control and shown in Figure 3 for a skew angle of 34 degrees.

Angle Off-Axis (deg)	ESD Along the GSO Plane (dBW/4kHz)	ESD Perpendicular to the GSO Plane (dBW/4kHz)
0.0	8.6	8.6
0.1	8.4	8.5
0.2	8.2	8.4
0.3	7.9	8.2
0.4	7.7	8.1
0.5	7.5	8.0
0.6	7.0	7.8
0.7	6.5	7.5

Angle Off-Axis (deg)	ESD Along the GSO Plane (dBW/4kHz)	ESD Perpendicular to the GSO Plane (dBW/4kHz)
0.8	6.0	7.2
0.9	5.5	7.0
1.0	5.0	6.7
1.1	4.1	6.3
1.2	3.1	5.8
1.3	2.2	5.4
1.4	1.2	4.9
1.5	0.3	4.5
1.6	-1.6	3.8
1.7	-3.4	3.1
1.8	-5.3	2.4
1.9	-7.1	1.8
2.0	-9.0	1.1
2.1	-8.4	-0.1
2.2	-7.9	-1.2
2.3	-7.4	-2.3
2.4	-6.9	-3.4
2.5	-6.3	-4.6
2.6	-5.3	-6.2
2.7	-4.3	-7.7
2.8	-3.2	-9.3
2.9	-2.2	-10.9
3.0	-1.2	-12.5
3.1	-1.0	-11.5
3.2	-0.8	-10.4
3.3	-0.6	-9.4
3.4	-0.4	-8.3
3.5	-0.2	-7.2
3.6	-0.3	-6.5
3.7	-0.4	-5.7
3.8	-0.6	-4.9
3.9	-0.7	-4.1
4.0	-0.8	-3.3
4.1	-1.3	-3.0
4.2	-1.7	-2.7
4.3	-2.1	-2.5
4.4	-2.6	-2.2
4.5	-3.0	-1.9

Angle Off-Axis (deg)	ESD Along the GSO Plane (dBW/4kHz)	ESD Perpendicular to the GSO Plane (dBW/4kHz)
4.6	-3.7	-1.8
4.7	-4.5	-1.8
4.8	-5.2	-1.7
4.9	-6.0	-1.7
5.0	-6.8	-1.6
5.1	-7.8	-1.8
5.2	-8.9	-2.0
5.3	-10.0	-2.2
5.4	-11.1	-2.4
5.5	-12.2	-2.6
5.6	-13.5	-2.9
5.7	-14.8	-3.3
5.8	-16.1	-3.7
5.9	-17.5	-4.0
6.0	-18.8	-4.4
6.1	-19.0	-5.0
6.2	-19.2	-5.5
6.3	-19.4	-6.1
6.4	-19.7	-6.6
6.5	-19.9	-7.2
6.6	-19.8	-8.1
6.7	-19.7	-9.0
6.8	-19.7	-9.8
6.9	-19.6	-10.7
7.0	-19.5	-11.6
7.1	-19.7	-13.0
7.2	-19.9	-14.5
7.3	-20.1	-15.9
7.4	-20.3	-17.3
7.5	-20.5	-18.8
7.6	-21.0	-23.0
7.7	-21.5	-27.2
7.8	-22.0	-31.5
7.9	-22.5	-35.7
8.0	-23.1	-40.0
8.1	-23.8	-36.1
8.2	-24.6	-32.2
8.3	-25.3	-28.3

Angle Off-Axis (deg)	ESD Along the GSO Plane (dBW/4kHz)	ESD Perpendicular to the GSO Plane (dBW/4kHz)
8.4	-26.1	-24.5
8.5	-26.9	-20.6
8.6	-28.0	-19.8
8.7	-29.2	-19.1
8.8	-30.3	-18.3
8.9	-31.5	-17.5
9.0	-32.7	-16.7
9.1	-32.8	-16.6
9.2	-33.0	-16.5
9.3	-33.1	-16.4
9.4	-33.2	-16.2
9.5	-33.4	-16.1
9.6	-33.0	-16.3
9.7	-32.5	-16.4
9.8	-32.1	-16.6
9.9	-31.6	-16.8
10.0	-31.2	-16.9
10.0	-31.2	-16.9
15.0	-32.7	-21.0
20.0	-25.5	-32.3
25.0	-31.0	-29.4
30.0	-39.7	-28.3
35.0	-33.0	-34.1
40.0	-26.1	-33.3
45.0	-39.6	-34.7
50.0	-31.8	-38.0
55.0	-36.9	-30.9
60.0	-34.9	-34.5
65.0	-54.2	-39.5
70.0	-43.0	-32.2
75.0	-38.0	-38.3
80.0	-36.2	-46.0
85.0	-39.6	-42.5
90.0	-44.5	-37.1



# **TECHNICAL APPENDIX**

## **Appendix D**

## Appendix D. Antenna EIRP Table

Antenna EIRP tables are presented in this section for the proposed earth station antenna in the direction of the plane of the GSO, and the co-polarized EIRP in the elevation plane, that is, the plane perpendicular to the plane of the GSO. Each column provides the EIRP level at increments of 0.1° for angles between 0° and 10° off-axis, and at increments of 5° for angles between 10° and 180° off-axis. The projection of EIRP the GSO is based on the example of maximum off-axis EIRP spectral density given in Application section 3.1.1.1 for a skew angle of 34 degrees and the maximum bandwidth emissions designator of 9M00G7D.

Angle Off-Axis (deg)	EIRP Along the GSO Plane (dBW)	EIRP Perpendicular to the GSO Plane (dBW)
0.0	41.3	41.3
0.1	41.1	41.2
0.2	40.9	41.1
0.3	40.7	41.0
0.4	40.5	40.9
0.5	40.3	40.8
0.6	39.8	40.5
0.7	39.3	40.2
0.8	38.7	40.0
0.9	38.2	39.7
1.0	37.7	39.4
1.1	36.8	39.0
1.2	35.8	38.6
1.3	34.9	38.1
1.4	33.9	37.7
1.5	33.0	37.2
1.6	31.1	36.5
1.7	29.3	35.9
1.8	27.5	35.2
1.9	25.6	34.5
2.0	23.8	33.8
2.1	24.3	32.7
2.2	24.8	31.5
2.3	25.3	30.4
2.4	25.9	29.3
2.5	26.4	28.2
2.6	27.4	26.6
2.7	28.5	25.0
2.8	29.5	23.4
2.9	30.5	21.8

Angle Off-Axis (deg)	EIRP Along the GSO Plane (dBW)	EIRP Perpendicular to the GSO Plane (dBW)
3.0	31.5	20.2
3.1	31.7	21.3
3.2	31.9	22.3
3.3	32.2	23.4
3.4	32.4	24.4
3.5	32.6	25.5
3.6	32.4	26.3
3.7	32.3	27.0
3.8	32.2	27.8
3.9	32.0	28.6
4.0	31.9	29.4
4.1	31.5	29.7
4.2	31.0	30.0
4.3	30.6	30.3
4.4	30.2	30.6
4.5	29.7	30.9
4.6	29.0	30.9
4.7	28.2	31.0
4.8	27.5	31.0
4.9	26.7	31.0
5.0	26.0	31.1
5.1	24.9	30.9
5.2	23.8	30.7
5.3	22.7	30.5
5.4	21.6	30.4
5.5	20.6	30.2
5.6	19.2	29.8
5.7	17.9	29.4
5.8	16.6	29.1
5.9	15.3	28.7
6.0	14.0	28.3
6.1	13.7	27.8
6.2	13.5	27.2
6.3	13.3	26.7
6.4	13.1	26.1
6.5	12.9	25.5
6.6	12.9	24.6
6.7	13.0	23.8

Angle Off-Axis (deg)	EIRP Along the GSO Plane (dBW)	EIRP Perpendicular to the GSO Plane (dBW)
6.8	13.1	22.9
6.9	13.1	22.0
7.0	13.2	21.1
7.1	13.0	19.7
7.2	12.8	18.3
7.3	12.6	16.8
7.4	12.4	15.4
7.5	12.2	14.0
7.6	11.7	9.7
7.7	11.2	5.5
7.8	10.7	1.2
7.9	10.2	-3.0
8.0	9.7	-7.2
8.1	8.9	-3.4
8.2	8.1	0.5
8.3	7.4	4.4
8.4	6.6	8.3
8.5	5.9	12.1
8.6	4.7	12.9
8.7	3.5	13.7
8.8	2.4	14.4
8.9	1.2	15.2
9.0	0.1	16.0
9.1	-0.1	16.1
9.2	-0.2	16.2
9.3	-0.4	16.4
9.4	-0.5	16.5
9.5	-0.7	16.6
9.6	-0.2	16.5
9.7	0.2	16.3
9.8	0.7	16.1
9.9	1.1	16.0
10.0	1.6	15.8
10.0	1.6	15.8
15.0	0.0	11.8
20.0	7.2	0.5
25.0	1.7	3.3
30.0	-7.0	4.4

Angle Off-Axis (deg)	EIRP Along the GSO Plane (dBW)	EIRP Perpendicular to the GSO Plane (dBW)
35.0	-0.3	-1.4
40.0	6.7	-0.6
45.0	-6.9	-1.9
50.0	0.9	-5.3
55.0	-4.2	1.9
60.0	-2.2	-1.8
65.0	-21.5	-6.8
70.0	-10.3	0.5
75.0	-5.3	-5.6
80.0	-3.4	-13.3
85.0	-6.9	-9.8
90.0	-11.7	-4.4

# **TECHNICAL APPENDIX**

## **Attachment B**




August 5, 2010

Federal Communications Commission  
International Bureau  
445 12th Street, S.W.  
Washington, D.C. 20554

To Whom It May Concern:

This letter supplements the letter dated February 8, 2010 from Telesat Canada ("Telesat") regarding Panasonic Avionics Corporation's ("PAC") proposed Ku-band aeronautical mobile-satellite service ("AMSS") operations with the Telstar 14 satellite at 63° W.L. Telesat confirms that so long as PAC maintains FCC authority to communicate with Telstar 14, Telesat will take into account the technical parameters described in the aforementioned letter in all future satellite network coordinations for the satellite.


Sincerely,

  
\_\_\_\_\_  
Robert Conduro  
for Telesat Canada

August 5, 2010  
Date

*Acceptance by Panasonic Avionics Corporation:*

PAC hereby certifies that it will comply with all coordination agreements reached by Telesat for the Telstar 14 satellite.

  
\_\_\_\_\_  
Paul Saraffe  
Panasonic Avionics Corporation  
eXConnect Systems Engineering

8/5/10  
Date