Panasonic

8 February 2016

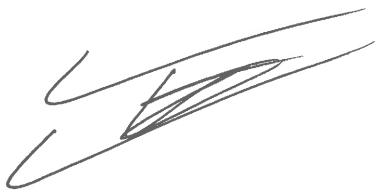
Mr Thomas Weber
European Communications Office
Peblingehus, Nansensgrade 19
DK-1366 Copenhagen
Denmark

Dear Mr. Weber,

Panasonic Avionics Corporation hereby submits to the ECO this amendment notification of the network submitted under the ECC Decision (05)11 on the free circulation and use of Aircraft Earth Stations (AES) in the frequency bands 14-14.5GHz (Earth-to-space), 10.7-11.7GHz (Space-to-earth) and 12.5-12.75GHz (Space-to-earth).

The satellite network on this amendment notification will merge the two current notified networks and will add a new type of AES terminal (Single Panel Antenna). The satellite network described in the Annex B will be operated by our three types of AES terminals. Technical parameters are attached to this letter.

Thanks and best regards,



Iñigo Cascón Alcaraz,
Regulatory Specialist,
Panasonic Avionics Corporation

ANNEX B

PARAMETERS THAT NEED TO BE SUBMITTED BY AES NETWORK OPERATORS TO THE OFFICE

- **Points of Contacts**

Network Operator's designated point of contact

Title of contact	**Mark DeFazio**
Postal address	**Panasonic Avionics Corporation** **26200 Enterprise Way** **Lake Forest, CA 92630** **USA**
Telephone and fax numbers	**Tel: +1 949-462-1683; Fax: +1 949-462-7100**
E-mail address	**Mark.DeFazio@panasonic.aero**

Network Control Facility (NCF) designated point of contact

Title of contact	**As above**
Postal address	**As above**
Telephone and fax numbers	**As above**
E-mail address	**As above**

- **Technical Specification(s) of AES equipment type(s) used in the network**

AES Antenna - Dual panel antenna

Antenna type	**Dual panel waveguide fed phased array**
Antenna size	**89cm x 16.5cm**
Transmit peak gain	**38 dBi**
Max e.i.r.p. per carrier	**48 dBW**
Transmit frequency bands	**14 – 14.5 GHz**
Min. operating elevation	**7° when on the ground[1] and otherwise conformant to the requirements of EN 302 186**
Antenna pointing accuracy	**Error <0.25° RMS (EL) & <0.15° RMS (AZ)**

AES Antenna – MELCO antenna

Antenna type	**Dual reflector cassegrain antenna with an elliptical aperture**
Antenna size	**81.2cm (W) x 83.2cm (D) x 23.9cm (H)**
Transmit peak gain	**32.2 dBi**
Max e.i.r.p. per carrier	**47.2 dBW**
Transmit frequency bands	**14 – 14.4 GHz**
Min. operating elevation	**7° when on the ground and otherwise conformant to the requirements of EN 302 186**
Antenna pointing accuracy	**Error 0.6° RMS (EL) & 0.25 ° RMS (AZ)**

AES Antenna – Single panel antenna

Antenna type	**Single panel antenna**
Antenna size	**94.9cm (W) x 45cm (D) x 21.97cm (H)**
Transmit peak gain	**35 dBi**
Max e.i.r.p. per carrier	**45 dBW**
Transmit frequency bands	**14 – 14.5 GHz**
Min. operating elevation	**0 to 90º antenna elevation**
Antenna pointing accuracy	**Error <0.25° RMS (EL) & <0.15° RMS (AZ)**

Waveform characteristics

Number(s) of carriers per AES	**1**
Occupied bandwidth(s) per carrier (as defined in Harmonised Standard EN 302 186)	**See table below**
Carrier center frequency(-ies)	**See table below**
Modulation	**BPSK**
Multiple access scheme	**TDMA**

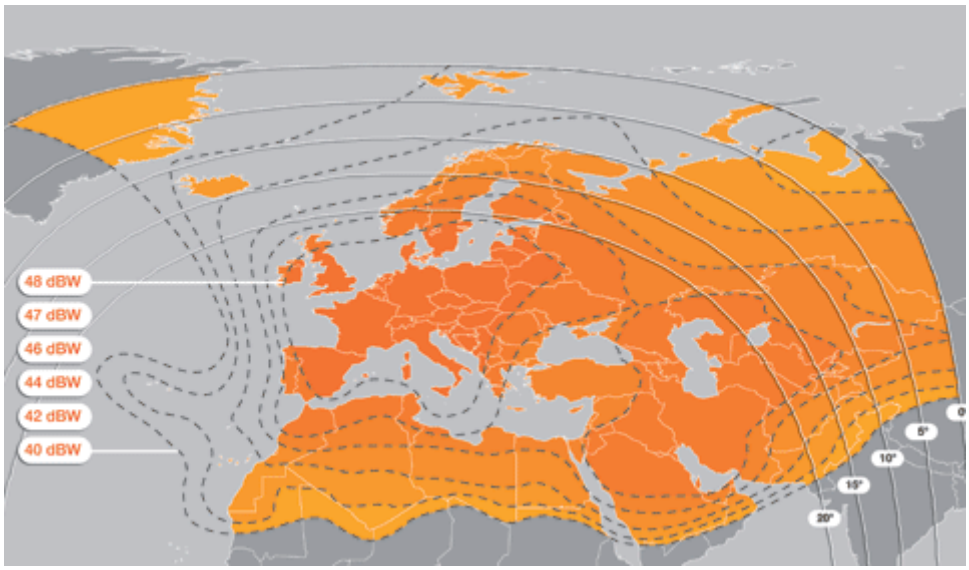
[1] [1] Panasonic Avionics Corporation is aware of the fact that in some countries operation of AES when the aircraft is on the ground, is subject to prior agreement with administrations and/or airport authorities and/or Civil Aviation Authorities

Satellite	Occupied bandwidth per carrier (MHz)	Carrier center frequencies (MHz)
Eutelsat W2A	3.9	1 carrier: 14023.89
	23.4	1 carrier: 14065.8
Telstar T14R	17.7	1 carrier: 14010.85
	16	1 carrier: 14094
	9.9	1 carrier: 14106.955
Telesat T11N	16	1 carrier: 14231
Asiasat-5	24	1 carrier: 14135
SES-6	16	1 carrier: 14275
Intelsat IS-14	15.6	1 carrier: 14192.8
Yamal-401	16	1 carrier: 14486.5
	8	1 carrier: 14379
Eutelsat E70B	15.6	1 carriers: 14181.31
	5.2	2 carrier: 14212.93 and 14241.73
	13	1 carrier: 14230.03

- **Operating details of each satellite**

Eutelsat W2A

ITU BR Filing Information
ITU BR filing satellite network name **Eutelsat 2-10E (Tx); Eutelsat3-10E (Rx)**
ITU BR circular reference number and date of publication **IFIC 2553 (AES Tx), IFIC 2616 (AES Rx)**
Satellite operator(s) (commercial) name **Eutelsat W2A**
GSO longitude (East or West from Greenwich) **10E**
Satellite service area (text description and/or a figure of the area) **R1 (AES Tx), BSR (AES Rx) (see below)**

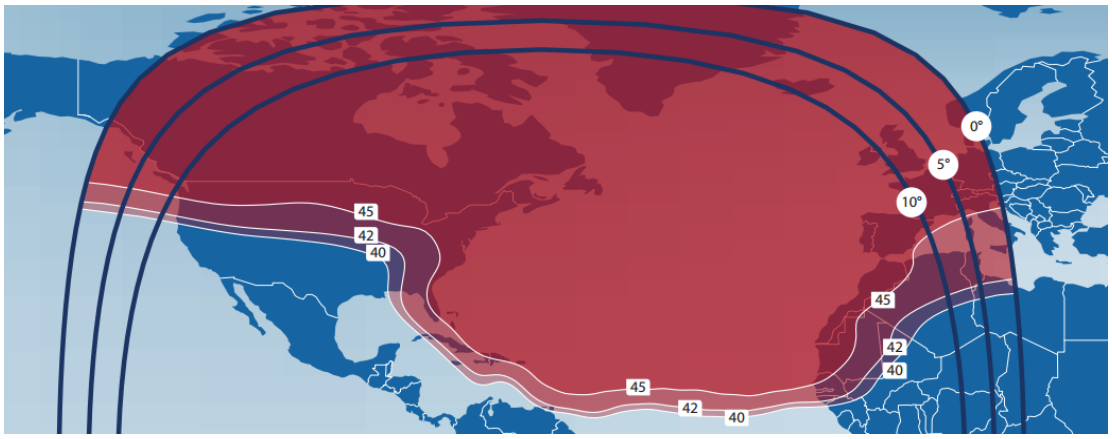


Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11471.41 MHz and 11262.5 MHz**
Transponder(s) downlink bandwidths **36 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14041.67 MHz**
Transponder(s) uplink bandwidth **72 MHz**

Telstar T14R

ITU BR Filing Information
ITU BR filing satellite network name **B-SAT I**
ITU BR circular reference number and date of publication **IFIC 2618**
Satellite operator(s) (commercial) name **Telstar T14R**
GSO longitude (East or West from Greenwich) **63W**
Satellite service area (text description and/or a figure of the area) **North Atlantic Ocean Region**



Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11470 MHz, 11552 MHz and 11634 MHz**
Transponder(s) downlink bandwidths **36 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14020 MHz and 14104 MHz**
Transponder(s) uplink bandwidth **36 MHz**

Telesat T11N

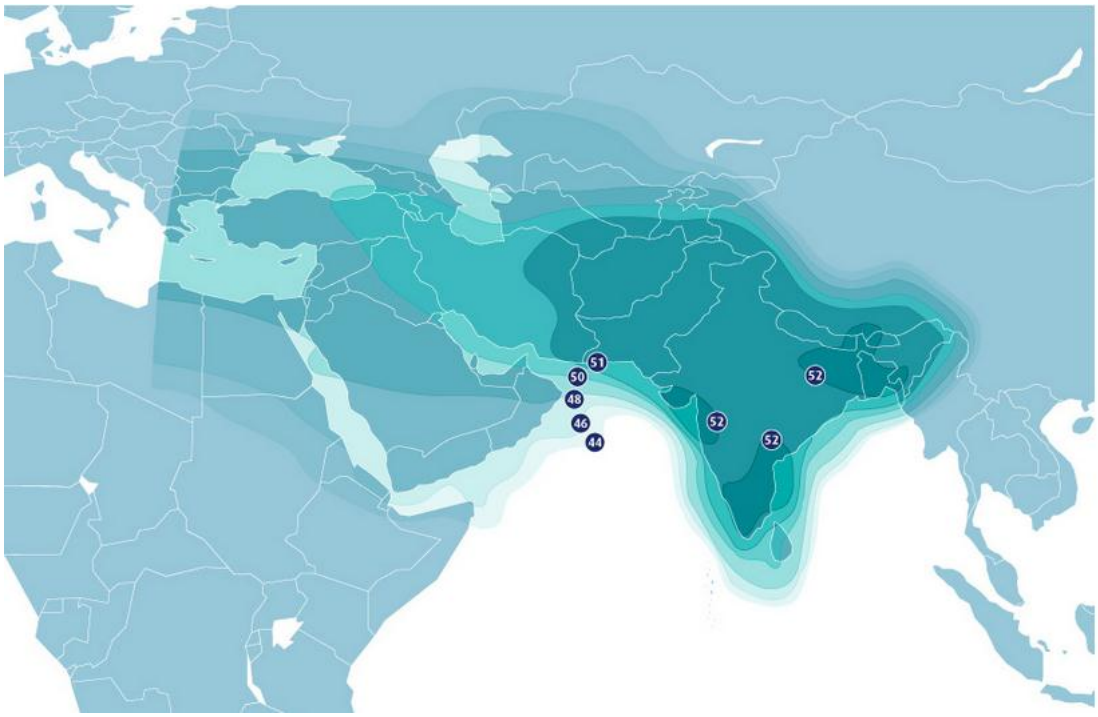
ITU BR Filing Information
ITU BR filing satellite network name **USASAT-26A**
ITU BR circular reference number and date of publication **IFIC 2699**
Satellite operator(s) (commercial) name **Telesat T11N**
GSO longitude (East or West from Greenwich) **37.5W**
Satellite service area (text description and/or a figure of the area) **Atlantic Ocean**

Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11587.5 MHz**
Transponder(s) downlink bandwidths **27 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14212 MHz**
Transponder(s) uplink bandwidth **54 MHz**

Asiasat-5

ITU BR Filing Information
ITU BR filing satellite network name **ASIASAT-EKX**
ITU BR circular reference number and date of publication **IFIC 2656**
Satellite operator(s) (commercial) name **Asiasat-5**
GSO longitude (East or West from Greenwich) **100.5E**
Satellite service area (text description and/or a figure of the area) **South Asia**

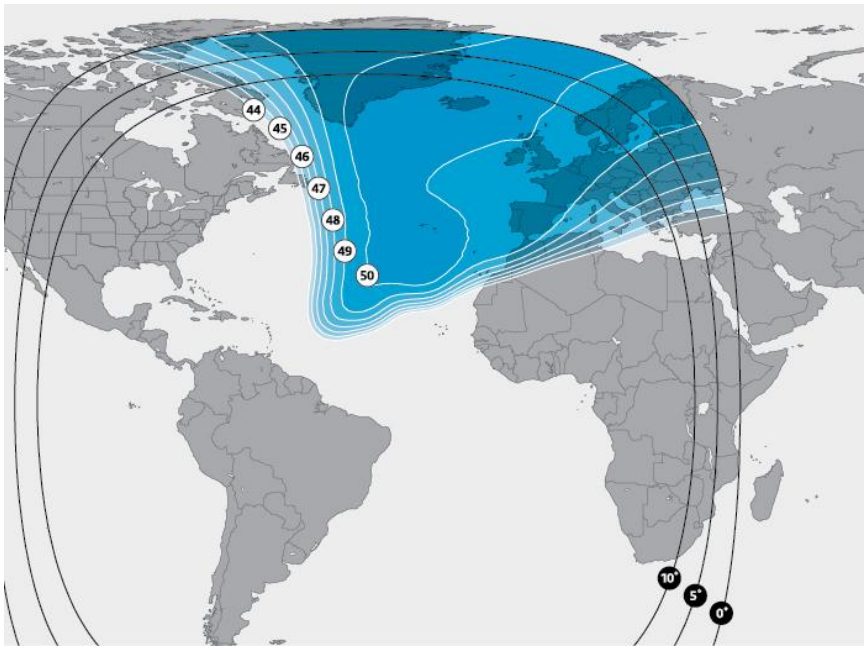


Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **12462 MHz**
Transponder(s) downlink bandwidths **54 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14150 MHz**
Transponder(s) uplink bandwidth **54 MHz**

SES-6

ITU BR Filing Information
ITU BR filing satellite network name **NSS-18, NSS-35, NSS-57**
ITU BR circular reference number and date of publication **IFIC 2669 (NSS-18), IFIC 2712 (NSS-35) and IFIC 2759 (NSS-57)**
Satellite operator(s) (commercial) name **SES-6**
GSO longitude (East or West from Greenwich) **40.5W**
Satellite service area (text description and/or a figure of the area) **East Atlantic**



Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11155 MHz**
Transponder(s) downlink bandwidths **72 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14375 MHz**
Transponder(s) uplink bandwidth **216 MHz**

Intelsat IS-14

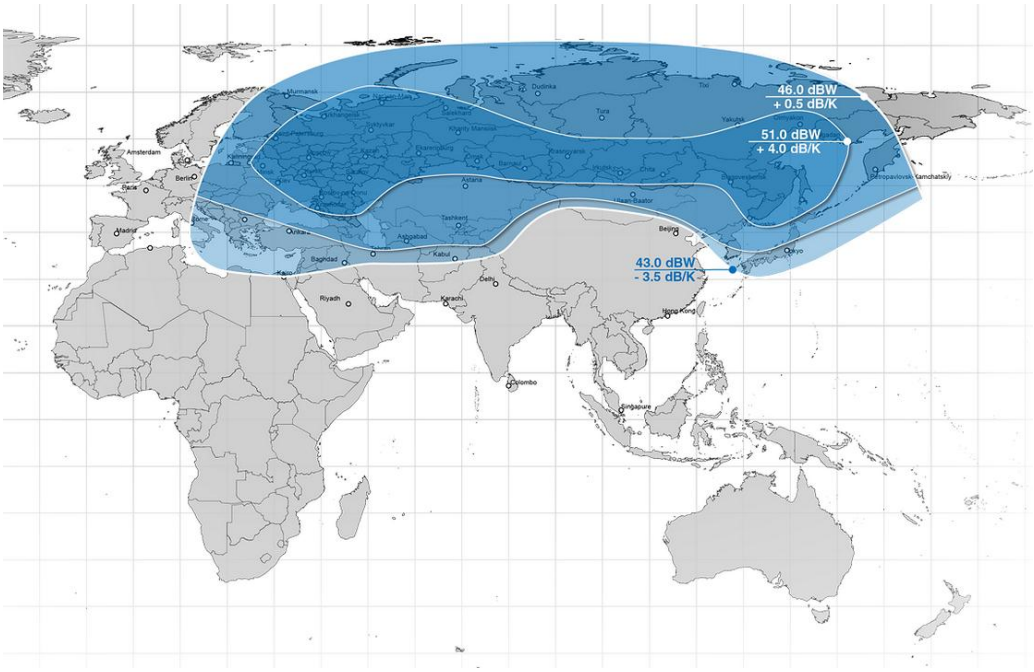
ITU BR Filing Information
ITU BR filing satellite network name **USASAT-13I**
ITU BR circular reference number and date of publication **IFIC 2574**
Satellite operator(s) (commercial) name **Intelsat IS-14**
GSO longitude (East or West from Greenwich) **45W**
Satellite service area (text description and/or a figure of the area) **Europe/Africa beam**

Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11550 MHz**
Transponder(s) downlink bandwidths **36 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14202 MHz**
Transponder(s) uplink bandwidth **72 MHz**

Yamal-401

ITU BR Filing Information
ITU BR filing satellite network name **EXPRESS-7C**
ITU BR circular reference number and date of publication **IFIC 2746**
Satellite operator(s) (commercial) name **Yamal-401**
GSO longitude (East or West from Greenwich) **90E**
Satellite service area (text description and/or a figure of the area) **Northern Beam 1**

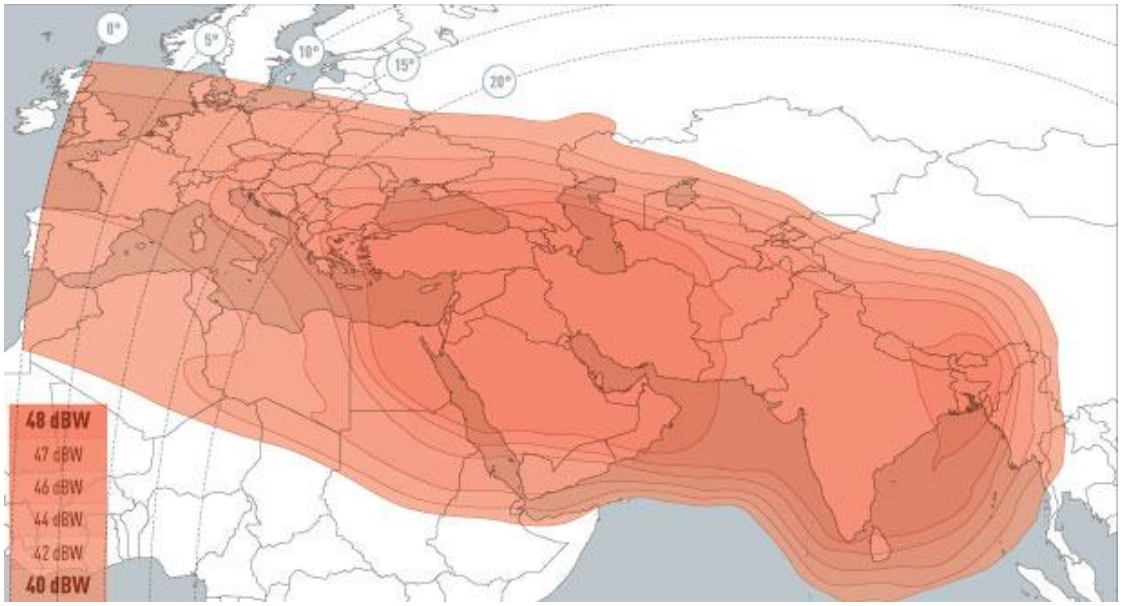


Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11580 MHz**
Transponder(s) downlink bandwidths **72 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14380 MHz and 14460 MHz**
Transponder(s) uplink bandwidth **72 MHz**

Eutelsat E70B

ITU BR Filing Information
ITU BR filing satellite network name **EUTELSAT 3-70.5E**
ITU BR circular reference number and date of publication **IFIC 2682**
Satellite operator(s) (commercial) name **Eutelsat E70B**
GSO longitude (East or West from Greenwich) **70.5E**
Satellite service area (text description and/or a figure of the area) **Widebeam**



Forward Channel details (Satellite to AES)
Transponder(s) downlink centre frequency **11356.25 MHz 11418.75 MHz**
Transponder(s) downlink bandwidths **54 MHz**

Return Channel details (AES to satellite)
Transponder(s) uplink centre frequency **14208.33 MHz**
Transponder(s) uplink bandwidth **72 MHz**

- **Other details**
  In addition the AES network operators needs to notify the Office of the name of the airlines which will be using their network system. Alternatively, operators could provide to the Office a link to their webpage containing this information.
  See www.panasonic.aero/