

ESV NETWORK OPERATOR DETAILS

Network operator name	Seasat Communications Ltd.
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NCF Contact e-mail address	noc@navarino.gr

1. Technical Specification(s) of ESV type(s) used in the network

--ESV Antenna--

A) Antenna type: Sailor 900VSAT

Antenna size: 103 cm / 40.6''

Transmit frequency bands: 13.75 to 14.50 GHz (extended)

Transmit peak gain: 41.6 dBi typ. @ 14.25 GHz (excl. radome)

Max e.i.r.p. per carrier: MAX. 36.0 dBW/40KHz

Min. operating elevation: -25''

Pointing accuracy: <0.2 degrees in full motion

B) Antenna type: INTELLIAN V100

Antenna size: 103cm / 41''

Transmit frequency bands: 13,75 ~ 14,5GHz Ku-band

Transmit peak gain: 41.6dBi @mid band

Max e.i.r.p. per carrier: 25.4dBW/4kHz (by EIRP spectral density regulation FCC 25.222)

Min. operating elevation: -20''

Pointing accuracy: 0.2° peak mis-pointing @ max ship motion condition

--Waveform definition--

Number(s) of carriers per ESV: max 1 carrier transmitted per ESV

Maximum occupied bandwidth(s) per carrier: 5MHz

Modulation: BPSK/QPSK/8PSK

Multiple access scheme: TDMA

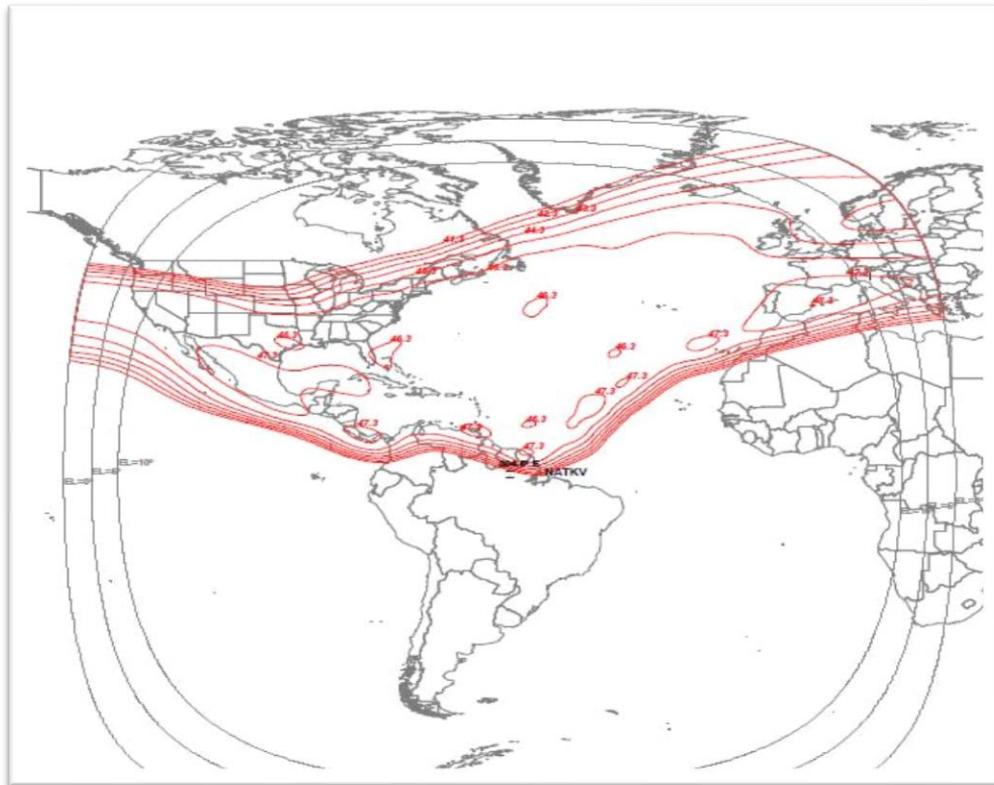
2. Operating details of each satellite

(IS-34)

ITU Filing satellite name	INTELSAT8 304.5E
Satellite operator name	Intelsat
GEO longitude	304.50
Satellite service area (text description and/or a figure of the area)	Europe

<u>Forward Channel details (Satellite to ESV)</u>	19K
Transponder downlink centre frequency	11555 MHz
Transponder downlink bandwidth	36 MHz

<u>Return Channel details (Satellite to ESV)</u>	25K
Transponder uplink centre frequency	14225 MHz
Transponder uplink bandwidth	36 MHz

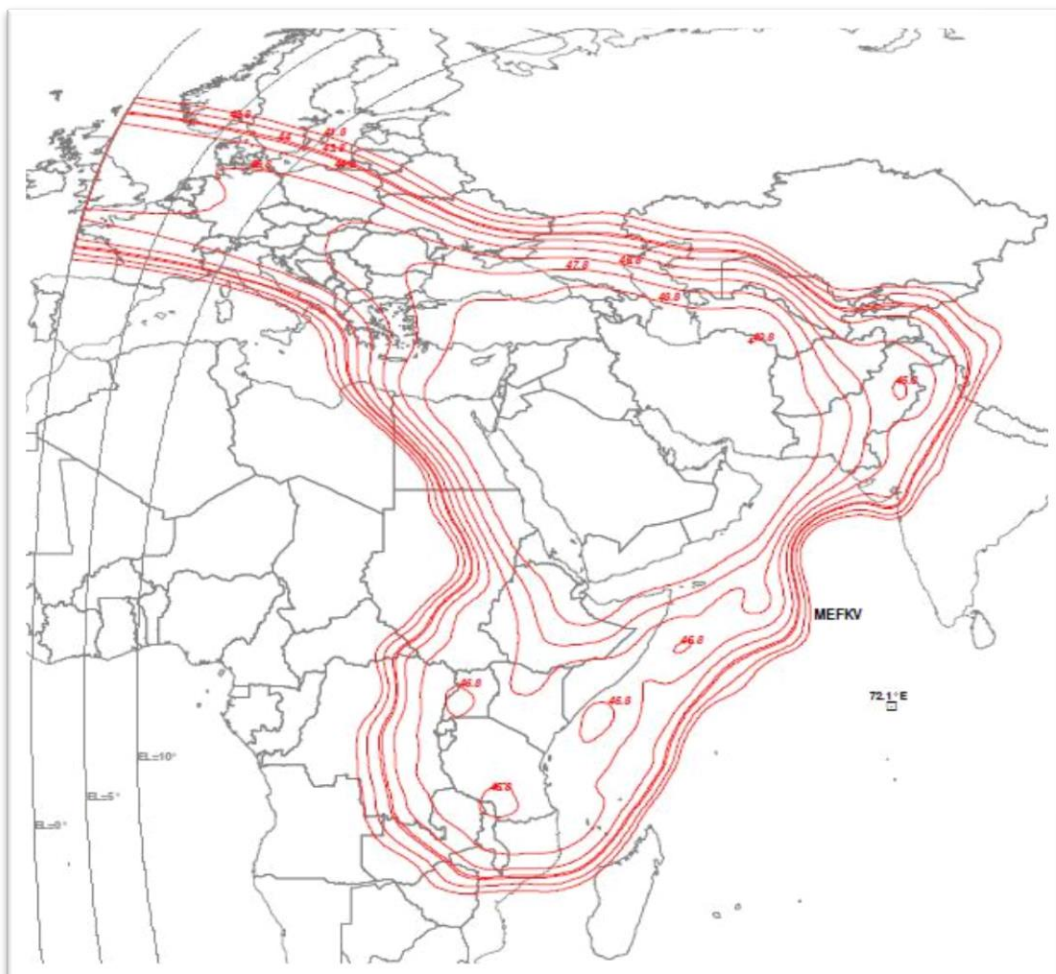


(IS-22)

ITU Filing satellite name	USASAT-60R
Satellite operator name	Intelsat
GEO longitude	72.10
Satellite service area (text description and/or a figure of the area)	Europe

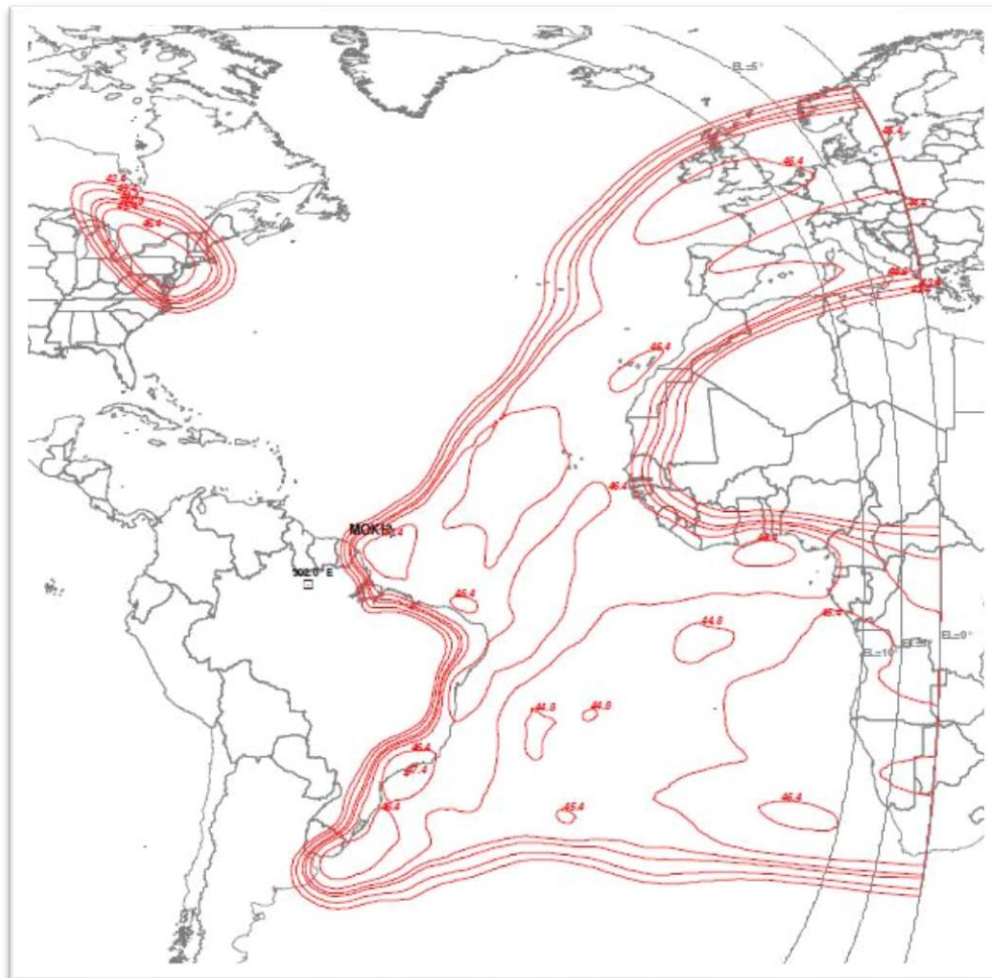
<u>Forward Channel details (Satellite to ESV)</u>	1K
Transponder downlink centre frequency	12525 MHz
Transponder downlink bandwidth	36 MHz

<u>Return Channel details (Satellite to ESV)</u>	1K
Transponder uplink centre frequency	14025 MHz
Transponder uplink bandwidth	36 MHz



(IS-21)

ITU Filing satellite name	USASAT-26G-3
Satellite operator name	Intelsat
GEO longitude	302.00
Satellite service area (text description and/or a figure of the area)	Europe
<u>Forward Channel details (Satellite to ESV)</u>	37K
Transponder downlink centre frequency	11532 MHz
Transponder downlink bandwidth	27 MHz
<u>Return Channel details (Satellite to ESV)</u>	37K
Transponder uplink centre frequency	14075 MHz
Transponder uplink bandwidth	27MHz

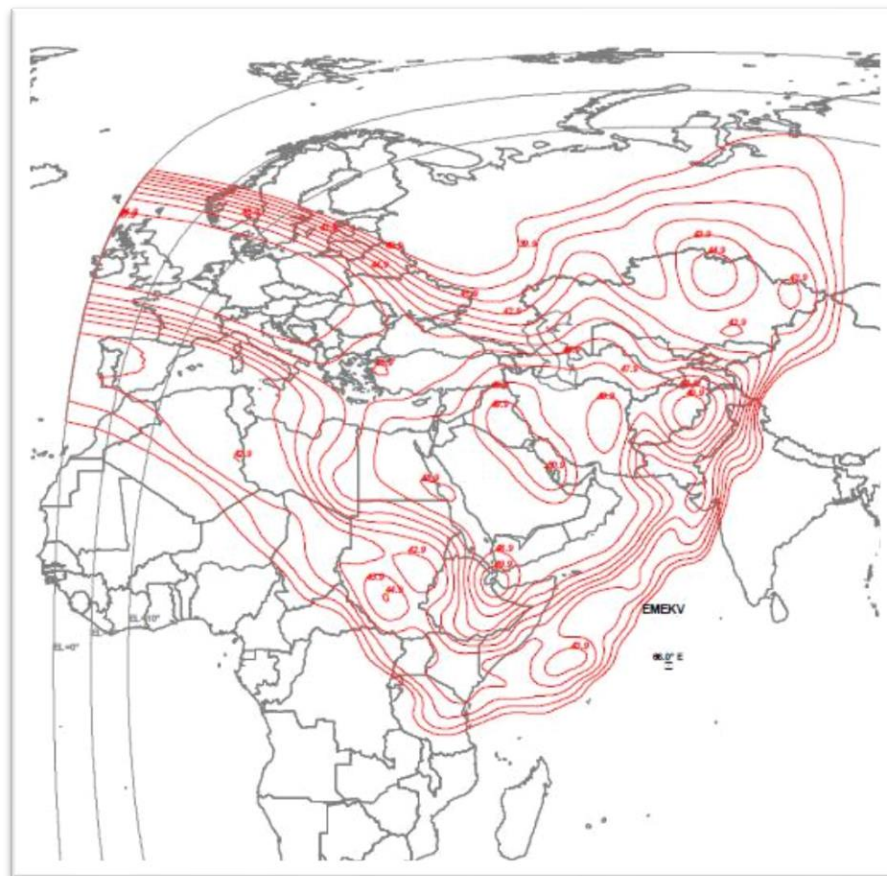


(IS-17)

ITU Filing satellite name	INTELSAT7 66E
Satellite operator name	Intelsat
GEO longitude	66.00
Satellite service area (text description and/or a figure of the area)	Europe

<u>Forward Channel details (Satellite to ESV)</u>	7K
Transponder downlink centre frequency	11492 MHz
Transponder downlink bandwidth	72 MHz

<u>Return Channel details (Satellite to ESV)</u>	7K
Transponder uplink centre frequency	14295 MHz
Transponder uplink bandwidth	72MHz



(IS-29e Europe Beams)

ITU Filing satellite name

Satellite operator name

GEO longitude

Satellite service area (text description and/or a figure of the area)

U/L:

INTELSAT7 310E,
USASAT-101B

DL:

USASAT-80A,
USASAT-101B

Intelsat

310.00

Europe Spot Beams

Forward Channel details (Satellite to ESV)

Transponder downlink frequency range

Transponder downlink bandwidth

11825 - 11950 MHz / 12075 - 12200 MHz

Variable

Return Channel details (Satellite to ESV)

Transponder uplink frequency range

Transponder uplink bandwidth

14000 - 14125 MHz

Variable



(IS-33e Europe Beams)

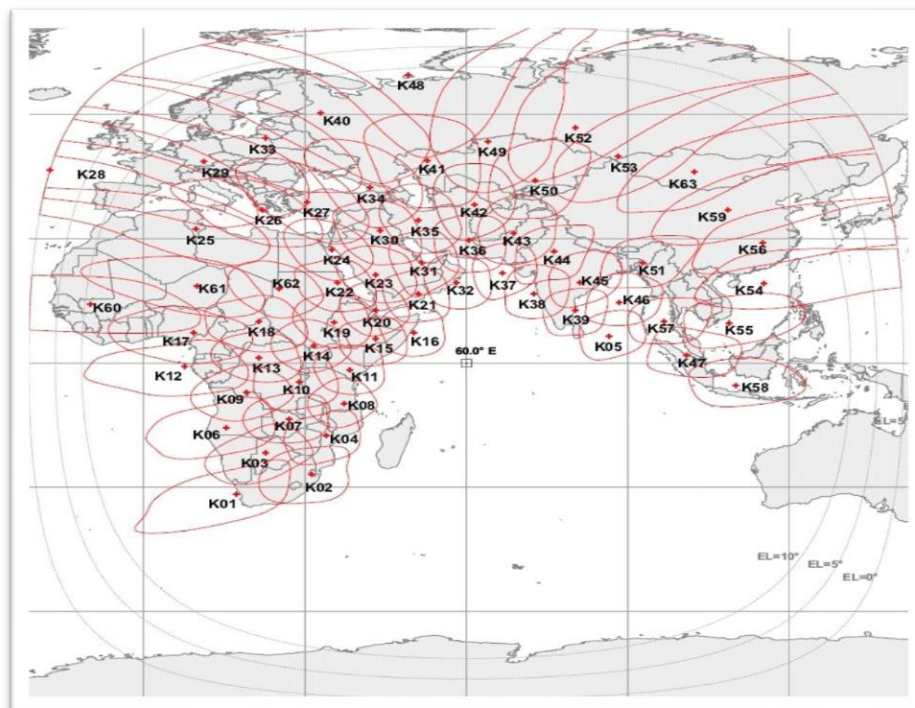
ITU Filing satellite name	INTELSAT9 60E (K01-K63 Uplink)
Satellite operator name	NEW DAWN 21 (K40 Uplink)
GEO longitude	NEW DAWN BSS-2 (K601, K603, and K605 Uplink)
Satellite service area (text description and/or a figure of the area)	INTELSAT9 60E (K05, K16, K20-K63 & K601 Downlink)
	NEW DAWN BSS-2 (K603 & K605 Downlink)
	NEW DAWN-21 (K40 Downlink)
	Intelsat
	60.00
	Europe Spot Beams

Forward Channel details (Satellite to ESV)

Transponder downlink frequency range	10950 - 11700 MHz
Transponder downlink bandwidth	Variable

Return Channel details (Satellite to ESV)

Transponder uplink frequency range	14000 - 14500 MHz
Transponder downlink bandwidth	Variable



(IS-37e Europe Beams)

ITU Filing satellite name	INTELSAT8 342E
Satellite operator name	Intelsat
GEO longitude	342.00
Satellite service area (text description and/or a figure of the area)	Europe Spot Beams

Forward Channel details (Satellite to ESV)

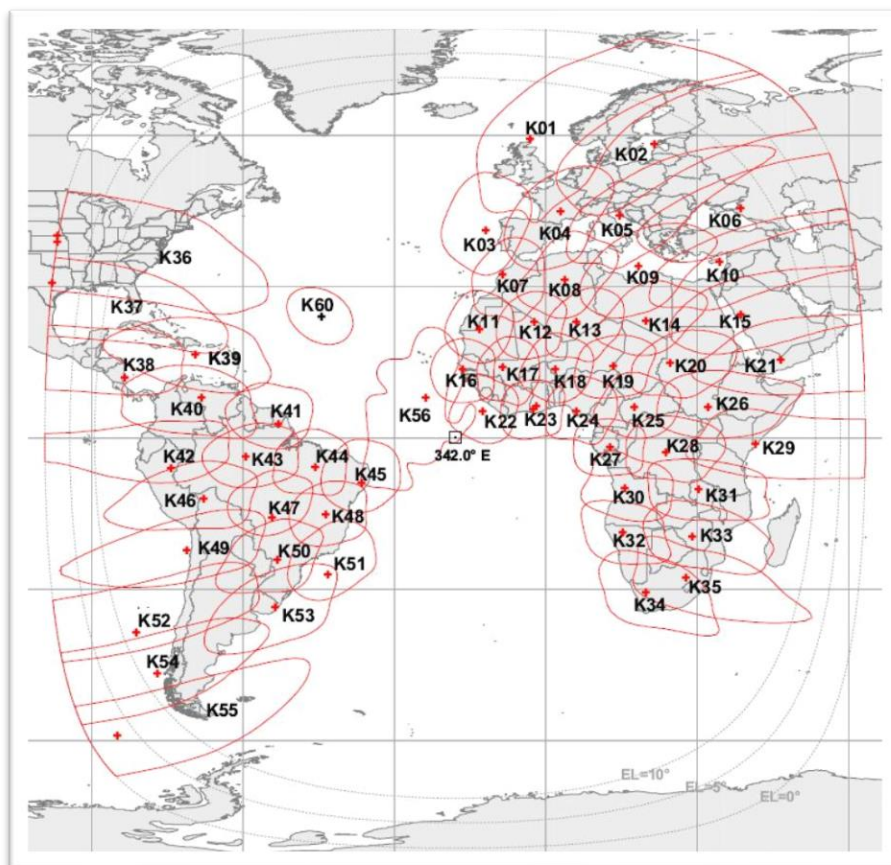
Transponder downlink frequency range 10900 - 11700 MHz / 12500 - 12750 MHz Transponder downlink bandwidth

Variable

Return Channel details (Satellite to ESV)

Transponder uplink frequency range 14000 - 14500 MHz Transponder uplink bandwidth

Variable



SES-4

ITU Filing satellite name: NSS-16

Satellite operator name: SES

GEO longitude: 22° WL

Satellite service area (text description and/or a figure of the area): see Figure A.1

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
12721 MHz	54 MHz
11111 MHz	54 MHz
11861 MHz	54MHz

Return Channel details (ESV to satellite) (EU beam and GL beam)

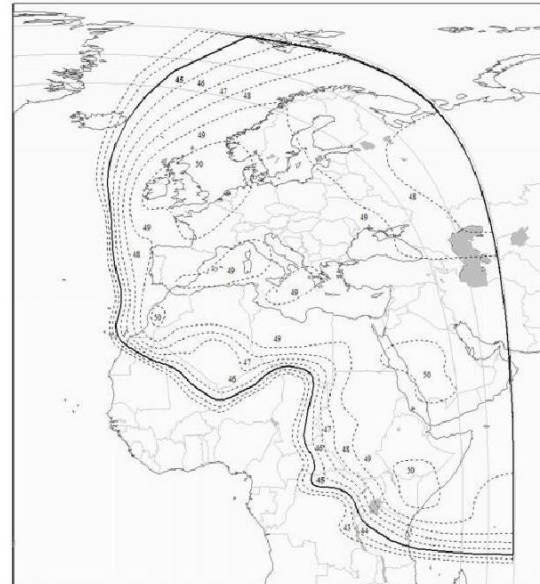
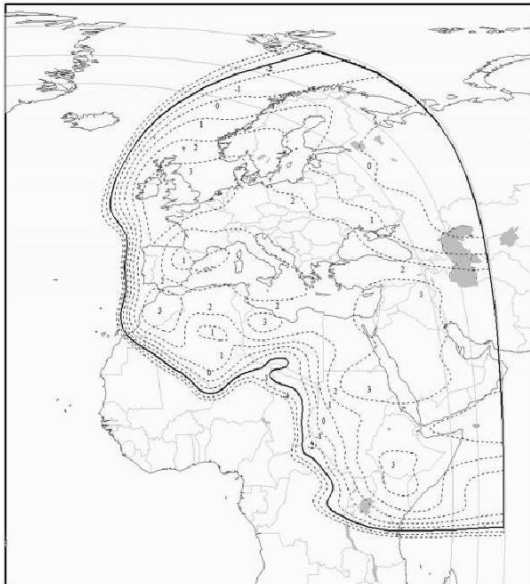
Centre Frequency	Bandwidth
14341 MHz	54 MHz
14161 MHz	54 MHz

Figure A.1:

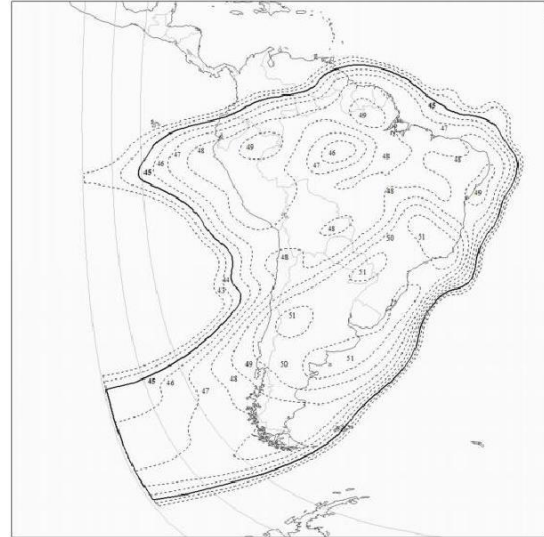
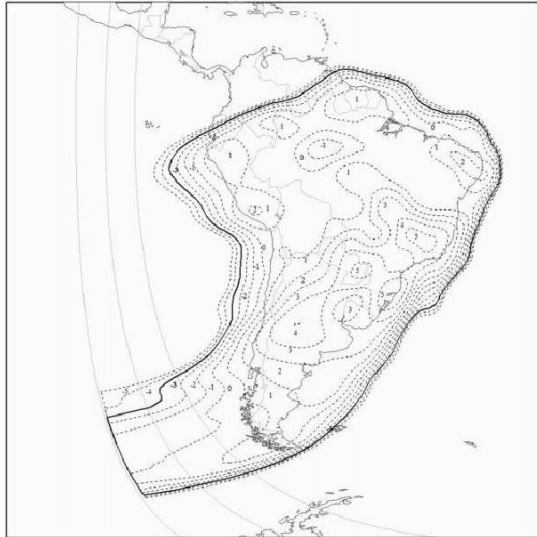
G/T

EIRP

European (EU) Beam (Ku-band)



Southern Cone (SC) Beam (Ku-band)



SES-6

ITU Filing satellite name: NSS-57

Satellite operator name: SES

GEO longitude: 40.5° WL

Satellite service area (text description and/or a figure of the area): see Figure A.2

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
11155 MHz	72 MHz

Return Channel details (ESV to satellite)

(EU beam and GL beam)

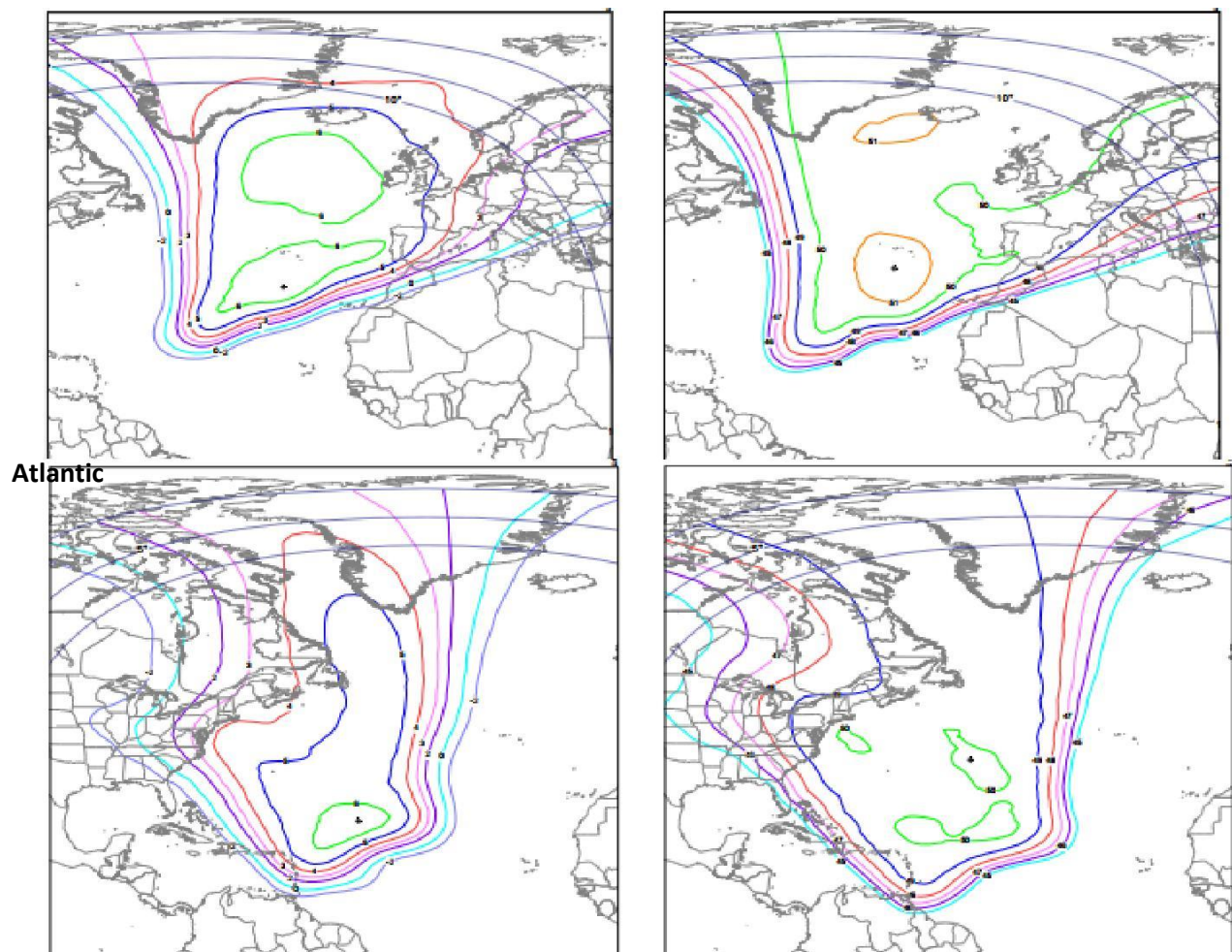
Centre Frequency	Bandwidth
14375 MHz	216MHz

Figure A.2:

G/T

EIRP

Atlantic East (AE) Beam (Ku-band)



NSS-7

ITU Filing satellite name: NSS-31

Satellite operator name: SES

GEO longitude: 20°WL

Satellite service area (text description and/or a figure of the area): see Figure A.3

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
10986 MHz	54 MHz
11981 MHz	54 MHz

Return Channel details (ESV to satellite) (EU beam and GL beam)

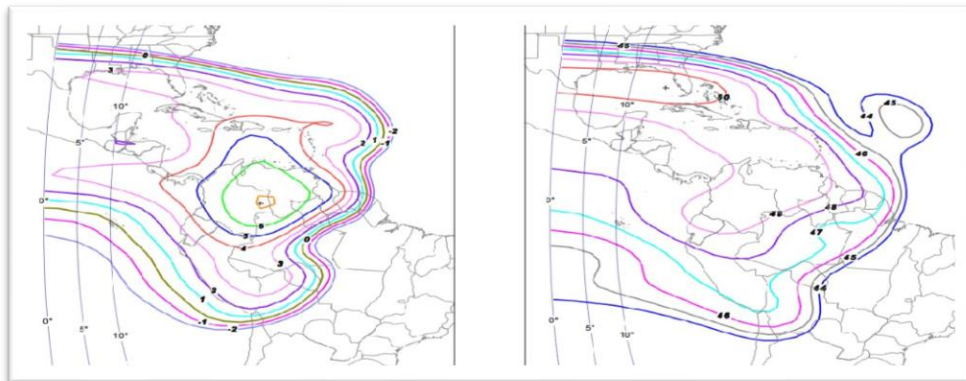
Centre Frequency	Bandwidth
14036 MHz	54 MHz
14221 MHz	54 MHz

Figure A.3:

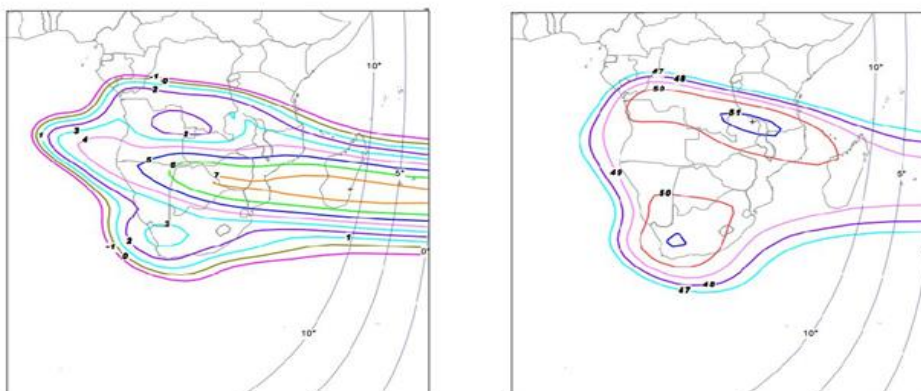
G/T

EIRP

Caribbean (CA) Beam (Ku-band)



South Africa (SA) Beam (Ku-band)



NSS-6

ITU Filing satellite name: NSS-9

Satellite operator name: SES

GEO longitude: 95°E

Satellite service area (text description and/or a figure of the area): see Figure A.5

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
12534 MHz	54 MHz
11131 MHz	54 MHz
11090 MHz	54 MHz
12729 MHz	36 MHz

Return Channel details (ESV to satellite) (EU beam and GL beam)

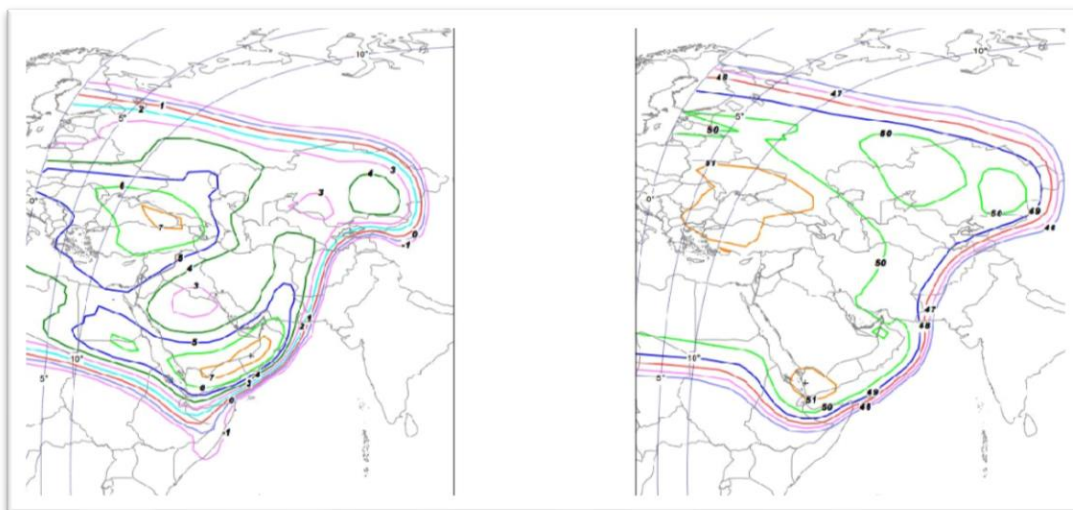
Centre Frequency	Bandwidth
14183 MHz	36 MHz
14090 MHz	36 MHz
14142 MHz	36 MHz
14029 MHz	54MHz

Figure A.5:

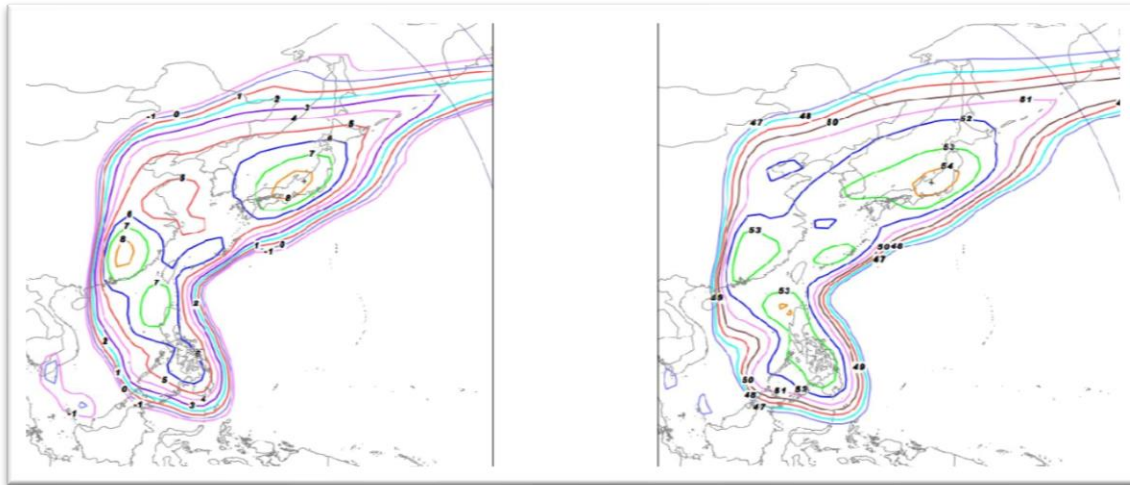
G/T

EIRP

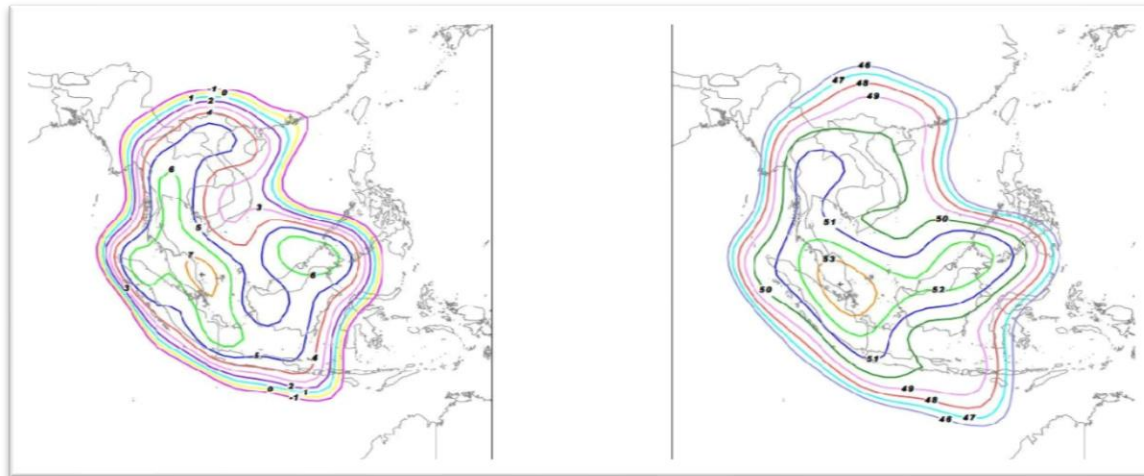
Middle East (ME) Beam (Ku-band)



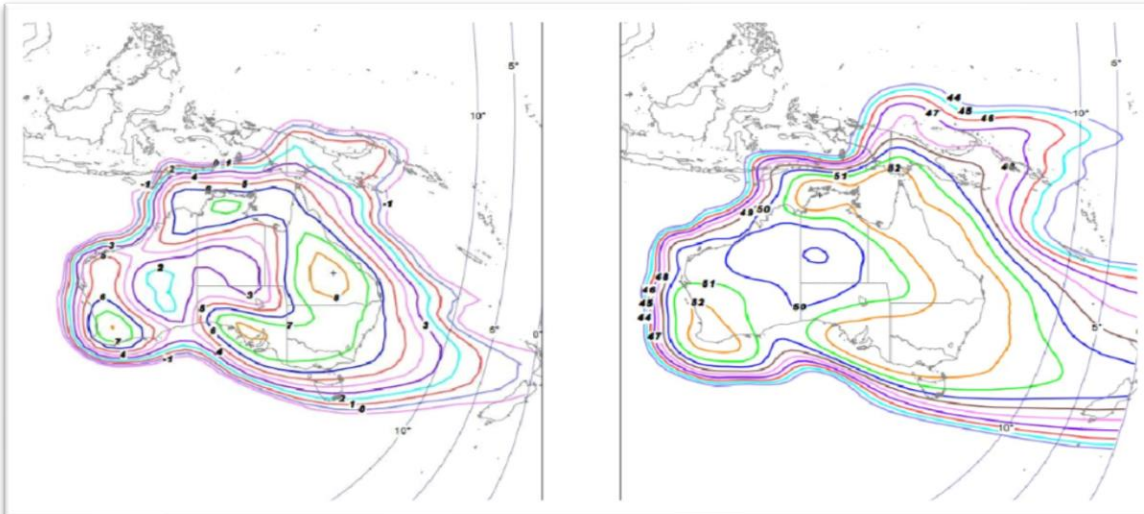
North East Asia (NEA) Beam (Ku-band)



South East Asia (SEA) Beam (Ku-band)



Australia (AU) Beam (Ku-band)



SES-9

ITU Filing satellite name: AM-SAT-108.2E-G

Satellite operator name: SES

GEO longitude: 108.2° EL

Satellite service area (text description and/or a figure of the area): see Figure A.6

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
12531 MHz	54 MHz
12461 MHz	54 MHz
10972 MHz	54 MHz

Return Channel details (ESV to satellite) (EU beam and GL beam)

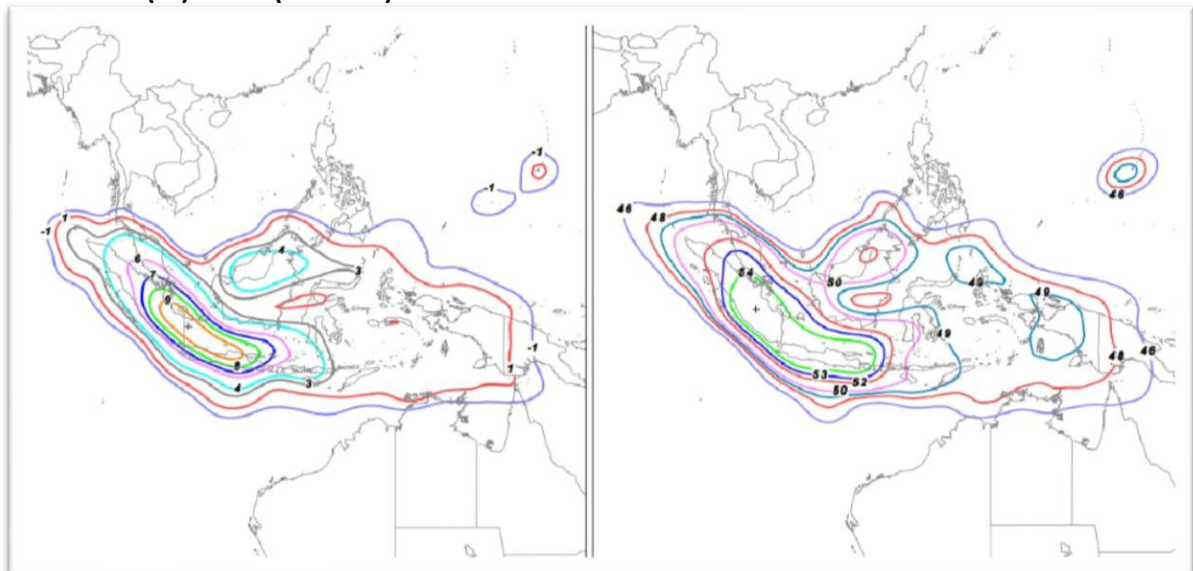
Centre Frequency	Bandwidth
14029 MHz	54 MHz
14459 MHz	36 MHz
14029 MHz	54MHz

Figure A.6:

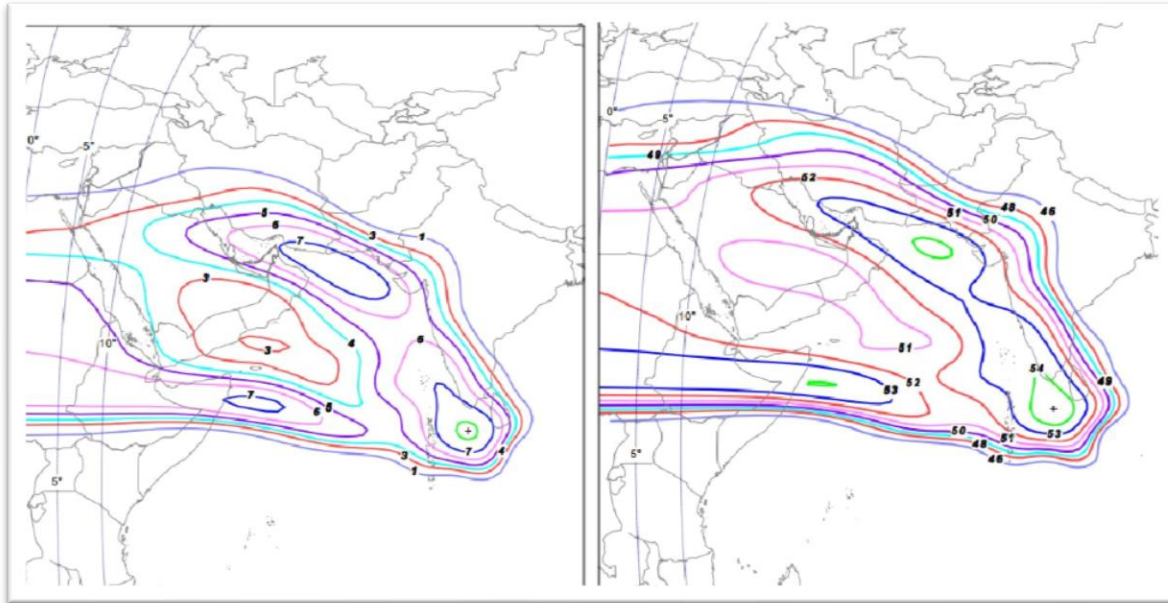
G/T

EIRP

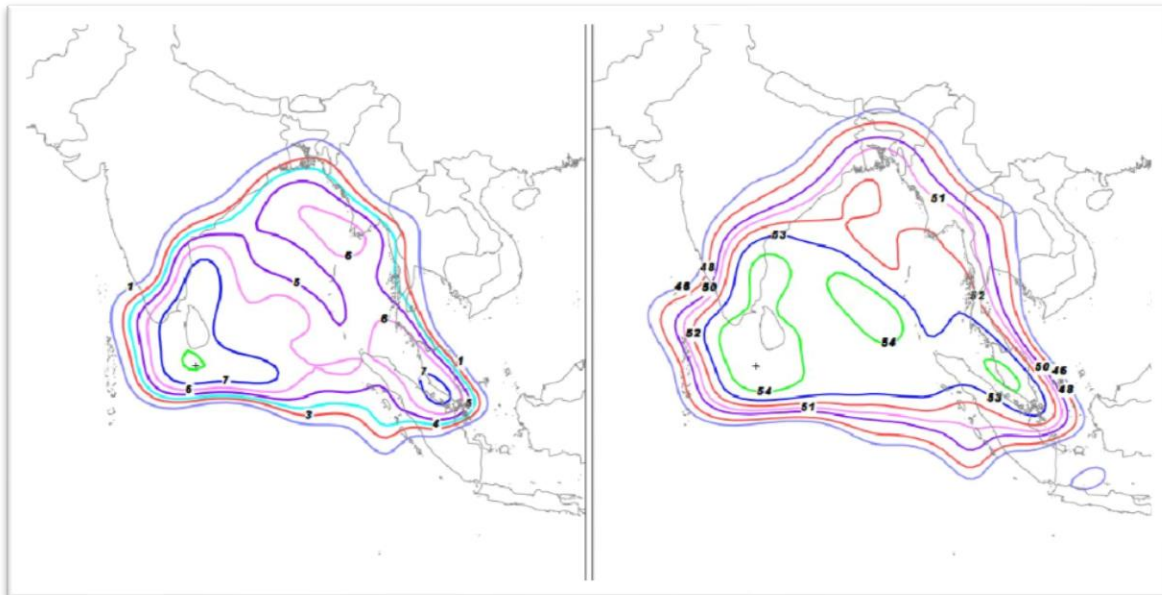
Indonesia (ID) Beam (Ku-band)



West India Ocean Region (WIOR) Beam (Ku-band)



East India Ocean Region (EIOR) Beam (Ku-band)



Astra 4A

ITU Filing satellite name: SIRIUS-5E-2, SIRIUS-5-BSS, SIRIUS-6-BSS

Satellite operator name: SES

GEO longitude: 4.8° EL

Satellite service area (text description and/or a figure of the area): see Figure A.7

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
12475.5 MHz	54 MHz
12685.0 MHz	54 MHz

Return Channel details (ESV to satellite) (EU beam and GL beam)

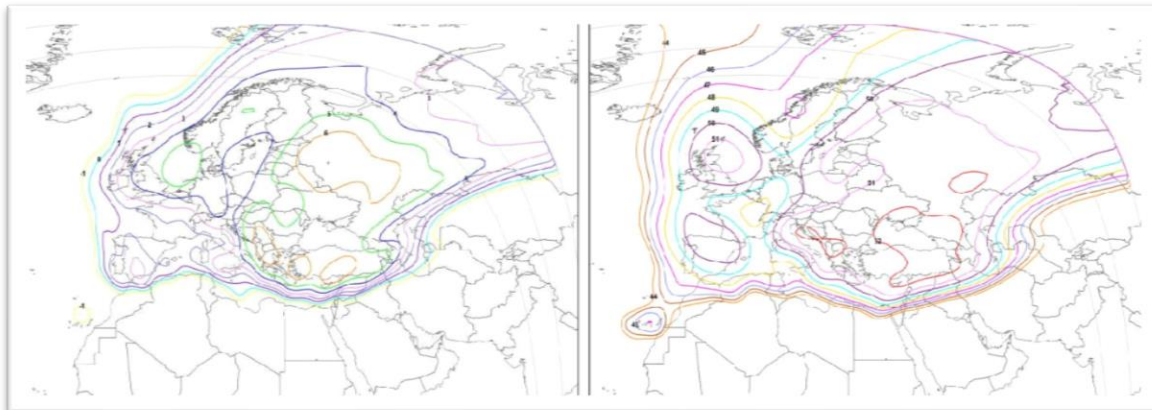
Centre Frequency	Bandwidth
14047 MHz	54 MHz
14185 MHz	36 MHz

Figure A.7:

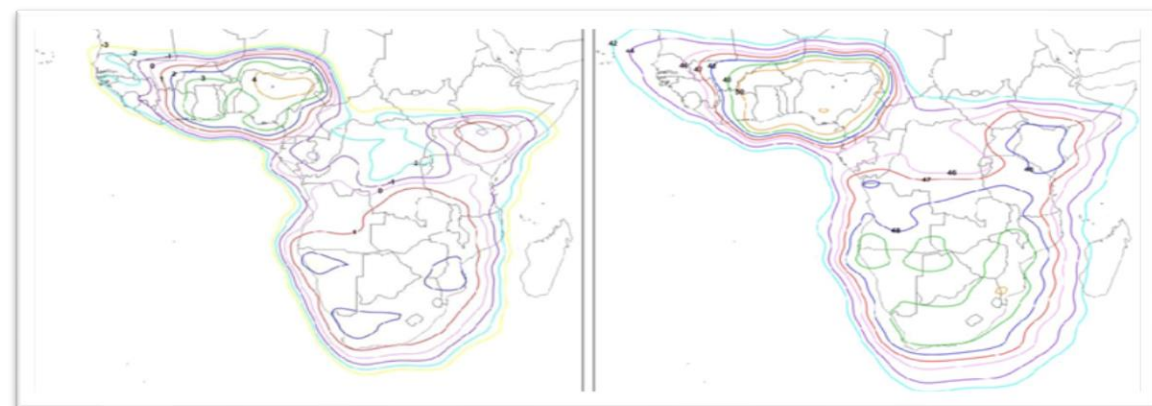
G/T

EIRP

European (EU) Beam (Ku-band)



South Saharan Beam (SA) Beam (Ku-band)



SES-1

ITU Filing satellite name: NSS-G5-3

Satellite operator name: SES

GEO longitude: 101° WL

Satellite service area (text description and/or a figure of the area): see Figure A.8

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
12080 MHz	36 MHz

Return Channel details (ESV to satellite) (EU beam and GL beam)

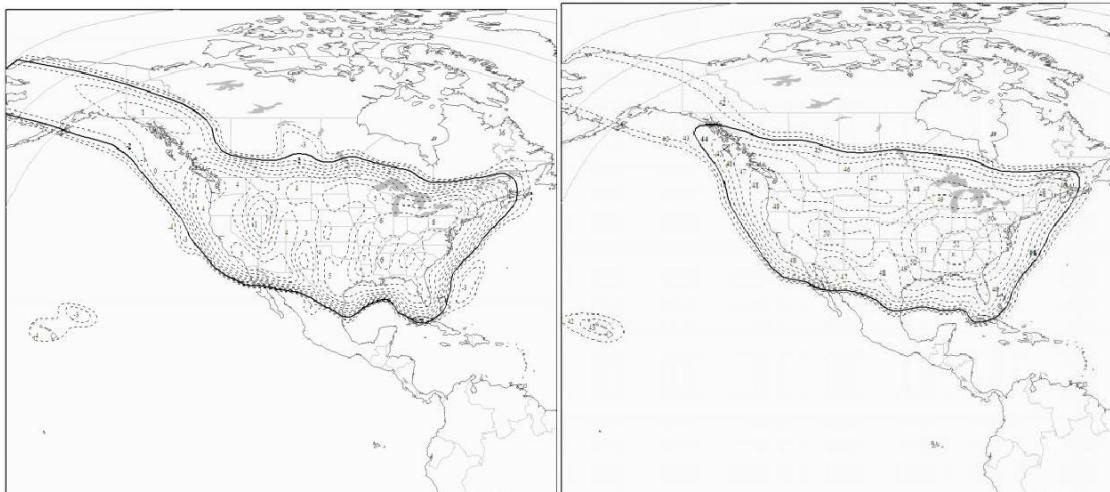
Centre Frequency	Bandwidth
14020 MHz	36 MHz

Figure A.8:

G/T

EIRP

North American (NA) Beam (Ku-band)



SES-10

ITU Filing satellite name:

Satellite operator name: SES

GEO longitude: 67° WL

Satellite service area (text description and/or a figure of the area): see Figure A.9

Modulation: ACM (QPSK-16APSK)

Forward Channel details (Satellite to ESV)

Centre Frequency	Bandwidth
12100 MHz	54 MHz

Return Channel details (ESV to satellite)

(EU beam and GL beam)

Centre Frequency	Bandwidth
14400 MHz	54 MHz

Figure A.9:

G/T

EIRP

Mexico-Caribbean (CA) Beam (Ku-band)

