

## SES Signature Maritime

### ECC/DEC/(05)09 ANNEX C<sup>1</sup>

Network operator name: O3b Limited
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Contact telephone number: +1 (202) 813-4026
Contact e-mail address: suzanne.malloy@o3bnetworks.com
Network Control Facility (NCF) designated point of contact: SES Network Operations Centre
NCF Contact name: SES Network Operations Centre
NCF Contact telephone number: +1-703-366-1500
NCF Contact e-mail address: noc-sesnetworks@ses.com

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<sup>1</sup> Some frequency bands referenced in this document are not covered by ECC/DEC/05(09), and this document also includes oversea territories of CEPT Member States, all of which are served by SES Signature Maritime. More information on this service is available from: [www.ses.com/networks/signature-solutions/signature-maritime](http://www.ses.com/networks/signature-solutions/signature-maritime)

## **SES-4**

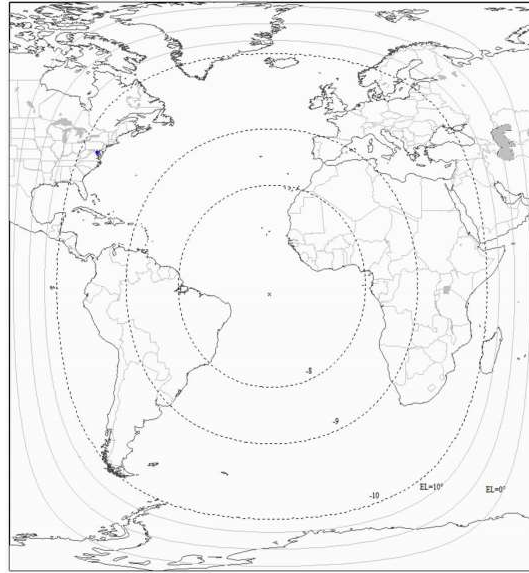
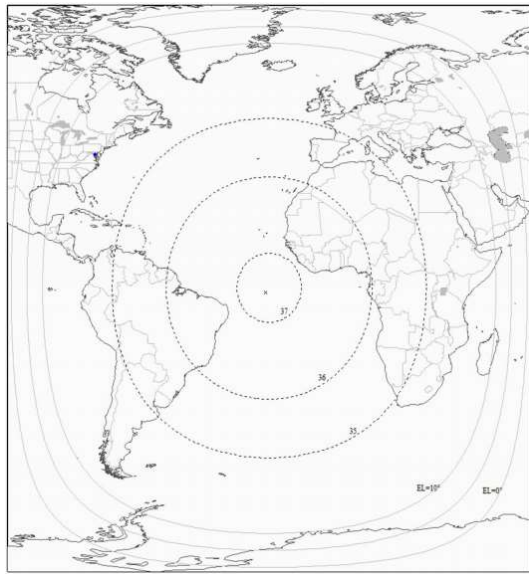
### **1. Technical Specification(s) of ESV type(s) used in the network**

<b>ESV Antenna</b>	
Antenna type:	Seatel 9797
Antenna size:	2.4m
Transmit frequency bands:	5.850-6.725GHz
Transmit peak gain:	41.7dBi @ 6.18GHz
Max e.i.r.p. per carrier:	60 dBW (200W BUC and inclusive of radome loss and insertion losses)
Min. operating elevation	5 degrees
Pointing accuracy	0.2 degrees

<b>Waveform definition</b>	
Number(s) of carriers per ESV:	One Outbound + One Inbound
Maximum occupied bandwidth(s) per carrier:	23.4MHz Outbound + 7.20MHz Inbound
Modulation: Adaptive Coding and Modulation:	QPSK
Multiple access scheme:	TDMA

### **2. Operating details of each satellite**

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)	

**G/T****EIRP****Forward Channel details (Satellite to ESV)**

Transponder downlink centre frequency	4140MHz
Transponder downlink bandwidth	36Mz

**Return Channel details (ESV to satellite)**

Transponder uplink centre frequency	6325MHz
Transponder uplink bandwidth	36MHz

## NSS-9

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

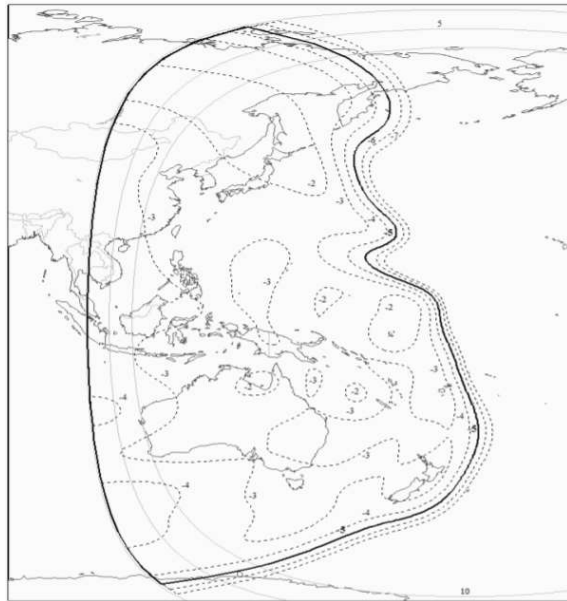
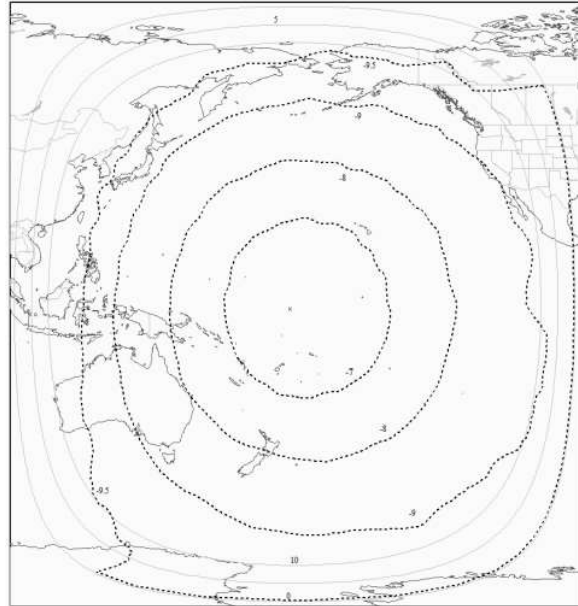
<b>ESV Antenna</b>	
Antenna type:	Seatel 9797
Antenna size:	2.4m
Transmit frequency bands:	5.850-6.725GHz
Transmit peak gain:	41.7dBi @ 6.18GHz
Max e.i.r.p. per carrier:	60 dBW (200W BUC and inclusive of radome loss and insertion losses)
Min. operating elevation	5 degrees
Pointing accuracy	0.2 degrees

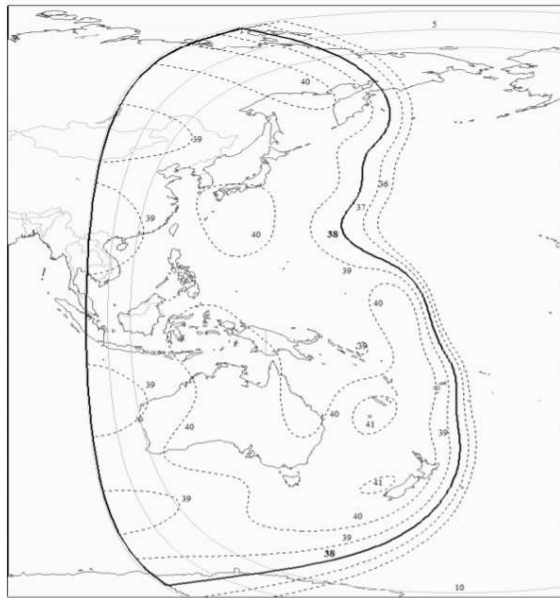
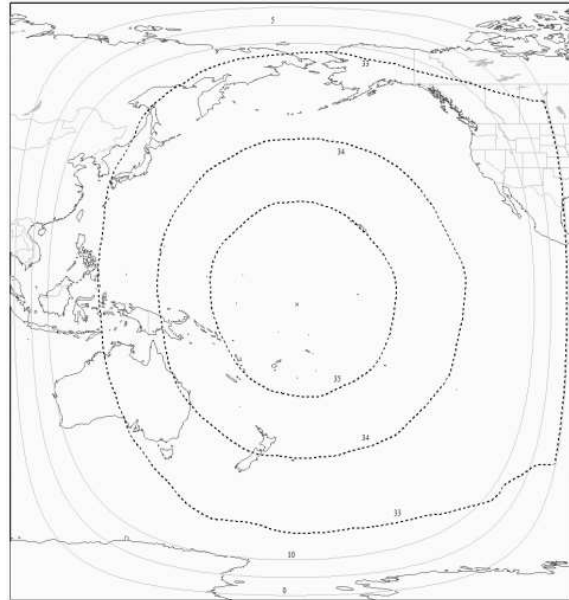
<b>Waveform definition</b>	
Number(s) of carriers per ESV:	One Outbound + One Inbound
Maximum occupied bandwidth(s) per carrier:	24MHz Outbound + 9MHz Inbound
Modulation: Adaptive Coding and Modulation:	QPSK
Multiple access scheme:	TDMA

### 2. Operating details of each satellite

ITU Filing satellite name:	NSS-9
Satellite operator name:	SES
GEO longitude:	177° WL
Satellite service area (text description and/or a figure of the area)	

**G/T**



**EIRP****Forward Channel details (Satellite to ESV)**

Transponder downlink centre frequency	3981MHz
Transponder downlink bandwidth	36 - 12MHz

**Return Channel details (ESV to satellite)**

Transponder uplink centre frequency	6186.5 – 6192.5MHz
Transponder uplink bandwidth	36 - 12MHz

## **NSS-12**

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

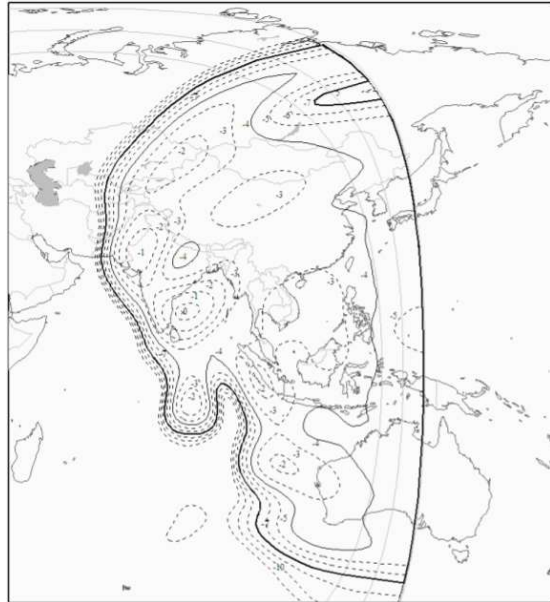
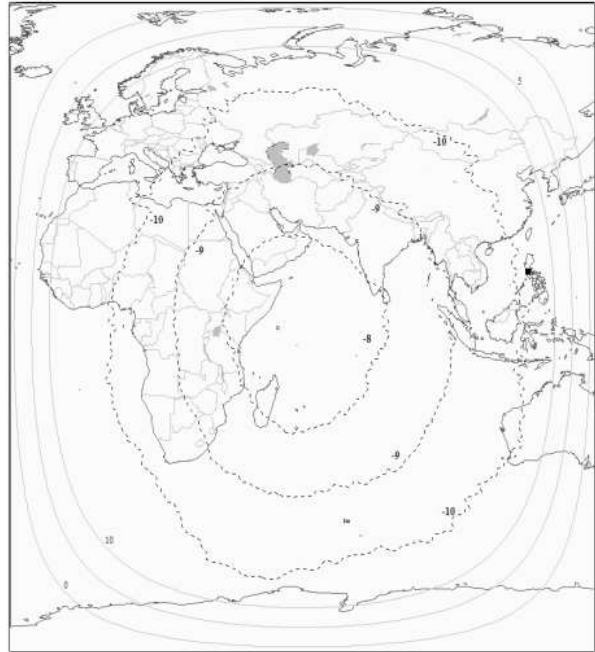
<b>ESV Antenna</b>	
Antenna type:	Seatel 9797
Antenna size:	2.4m
Transmit frequency bands:	5.850-6.725GHz
Transmit peak gain:	41.7dBi @ 6.18GHz
Max e.i.r.p. per carrier:	60 dBW (200W BUC and inclusive of radome loss and insertion losses)
Min. operating elevation	5 degrees
Pointing accuracy	0.2 degrees

<b>Waveform definition</b>	
Number(s) of carriers per ESV:	One Outbound + One Inbound
Maximum occupied bandwidth(s) per carrier:	10MHz Outbound + 4MHz Inbound
Modulation: Adaptive Coding and Modulation:	QPSK
Multiple access scheme:	TDMA

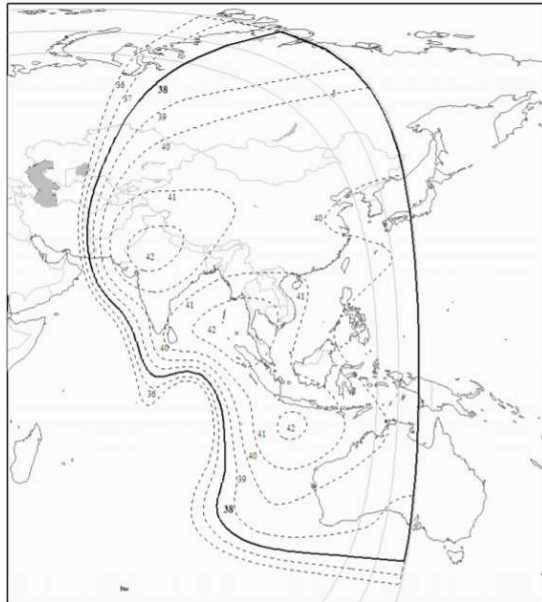
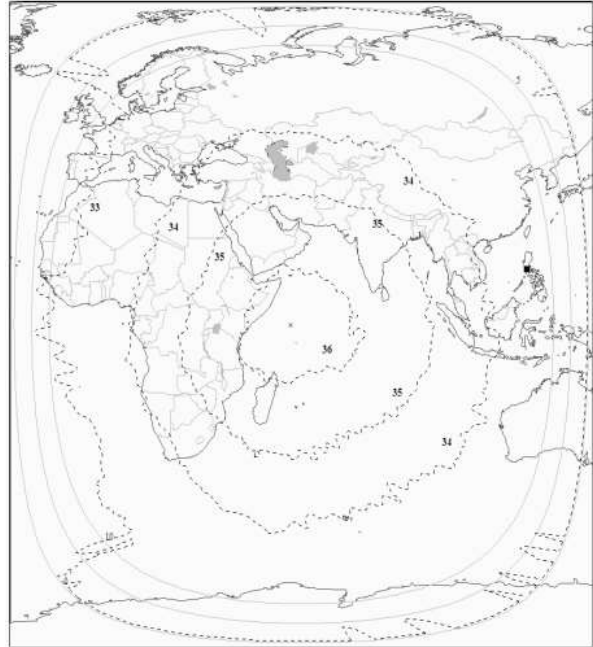
### **2. Operating details of each satellite**

ITU Filing satellite name:	NSS-36
Satellite operator name:	SES
GEO longitude:	57° EL
Satellite service area (text description and/or a figure of the area)	

**G/T**





**EIRP****Forward Channel details (Satellite to ESV)**

Transponder downlink centre frequency	4178 - 3728MHz
Transponder downlink bandwidth	36 - 19MHz

**Return Channel details (ESV to satellite)**

Transponder uplink centre frequency	6403 - 5993MHz
Transponder uplink bandwidth	36 - 12MHz

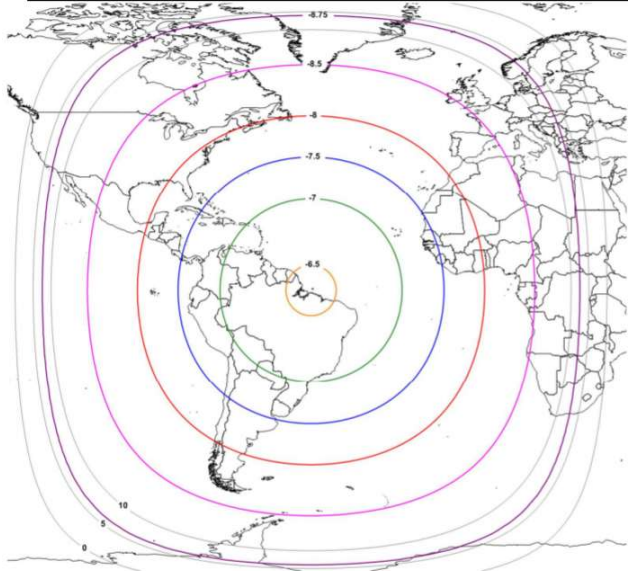
## SES-14

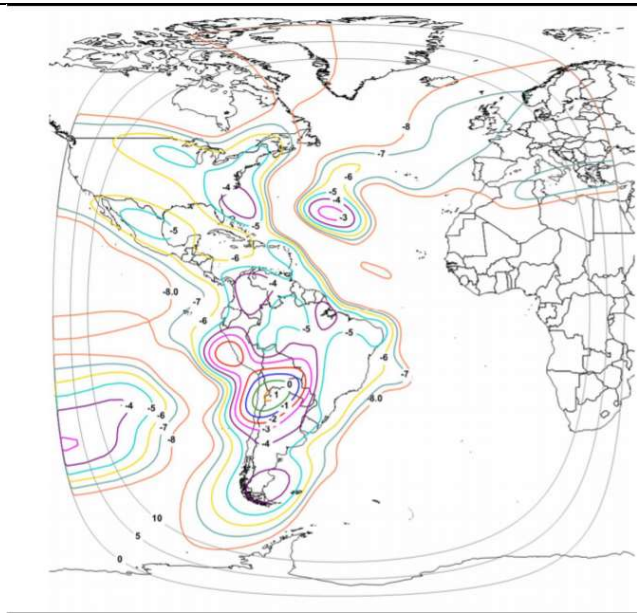
### 1. Technical Specification(s) of ESV type(s) used in the network

<b>ESV Antenna</b>	
Antenna type:	Seatel 9797
Antenna size:	2.4m
Transmit frequency bands:	5.850-6.725GHz
Transmit peak gain:	41.7dBi @ 6.18GHz
Max e.i.r.p. per carrier:	60 dBW (200W BUC and inclusive of radome loss and insertion losses)
Min. operating elevation	5 degrees
Pointing accuracy	0.2 degrees

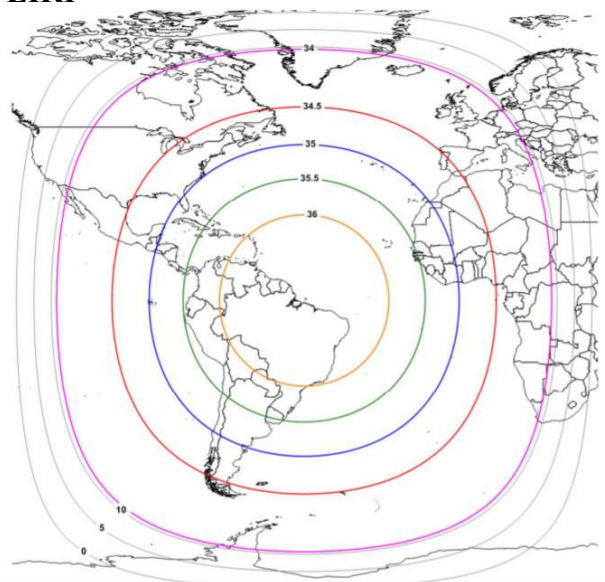
<b>Waveform definition</b>	
Number(s) of carriers per ESV:	One Outbound + One Inbound
Maximum occupied bandwidth(s) per carrier:	25.2MHz Outbound + 8.4MHz Inbound
Modulation: Adaptive Coding and Modulation:	8PSK
Multiple access scheme:	TDMA

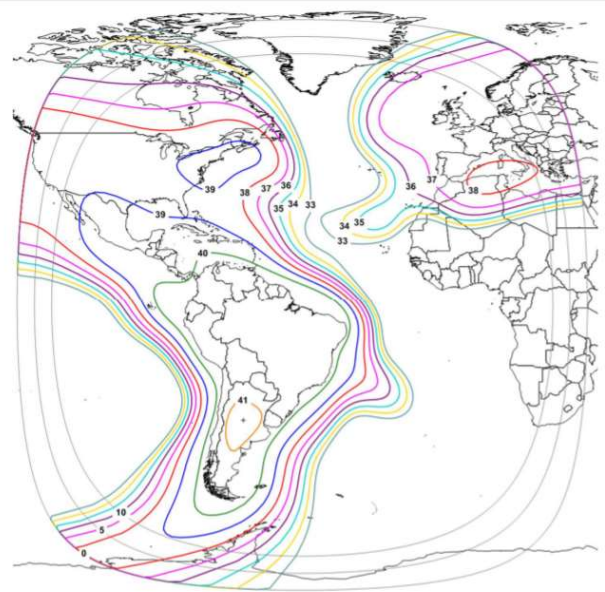
### 2. Operating details of each satellite

ITU Filing satellite name:	
Satellite operator name:	SES
GEO longitude:	47.5° WL
Satellite service area (text description and/or a figure of the area)	<b>G/T</b> 



### EIRP





**Forward Channel details (Satellite to ESV)**

Transponder downlink centre frequency	4095 - 4135MHz
Transponder downlink bandwidth	36 - 36MHz

**Return Channel details (ESV to satellite)**

Transponder uplink centre frequency	6320 - 6360MHz
Transponder uplink bandwidth	36 - 36MHz