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## ATS SURVEILLANCE SERVICES AND PROCEDURES

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A list of the applicable rules can be consulted in section GEN 1.6. In the sections below, a descriptive summary is offered to help airspace users, although if there is any discrepancy, the Rule will prevail over the content of the AIP. The content of this AIP section does not fulfil the quality requirements.

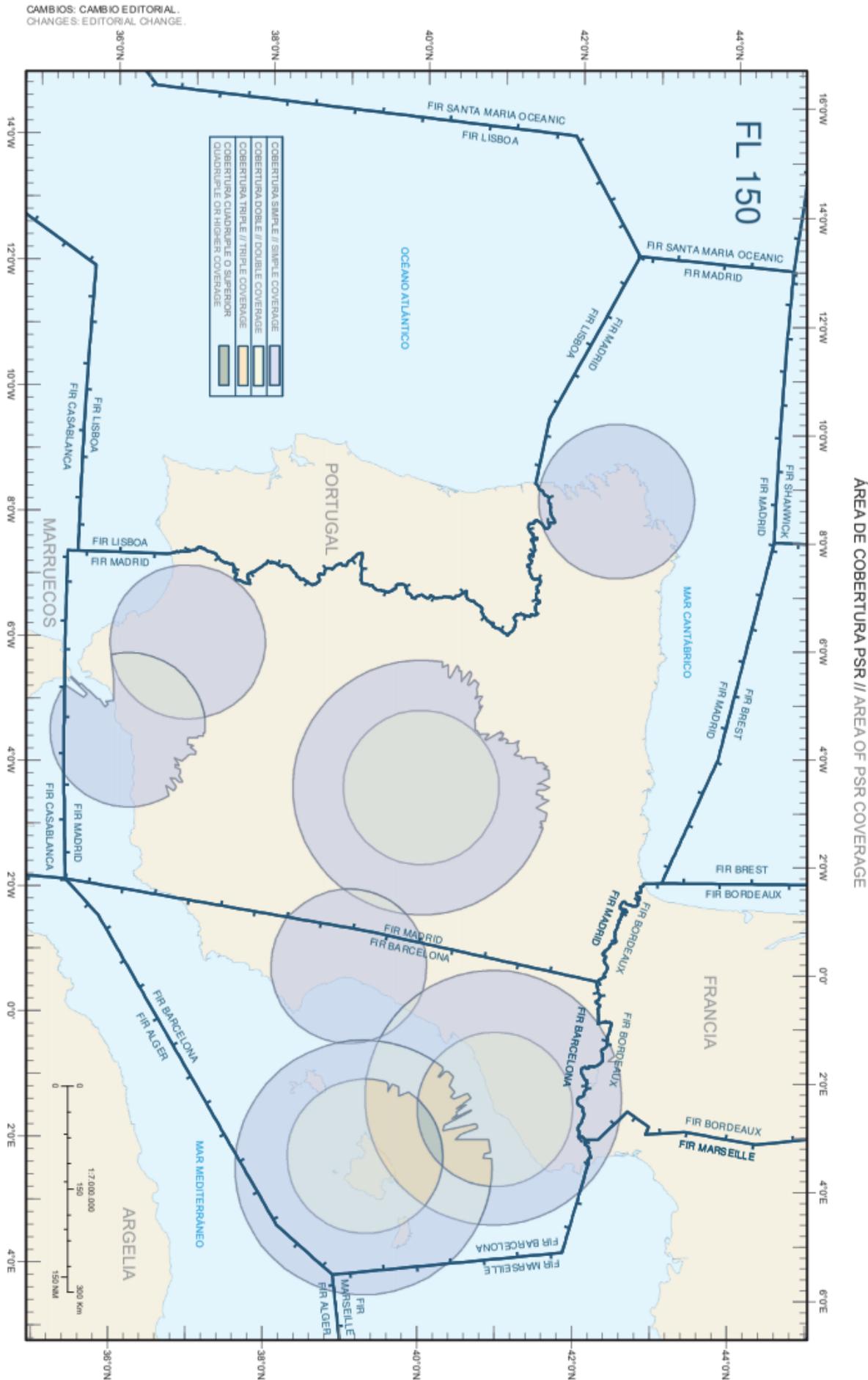
The details about the use of the ATS surveillance in the air transit service control are described in section 3. and the minimal horizontal separation distances are in section 4.

### 1. PRIMARY SURVEILLANCE RADAR (PSR)

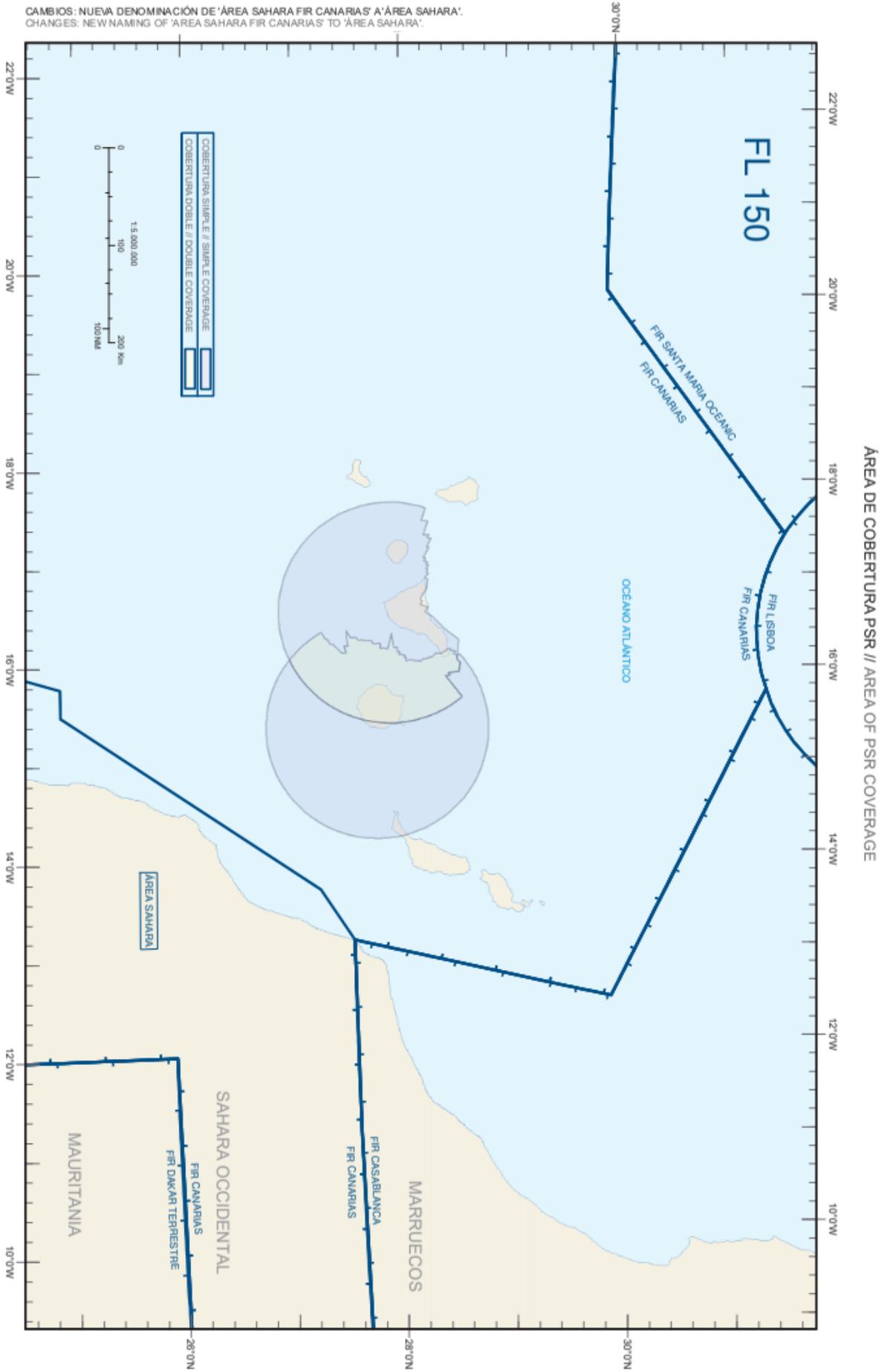
The primary surveillance radar is part of an integrated ATS surveillance system that provides ATS surveillance functions for aircraft, subject to factors like radar coverage and the technical limitations that may affect the service, being controller the one that determines whether ATS surveillance services can be continued to be used.

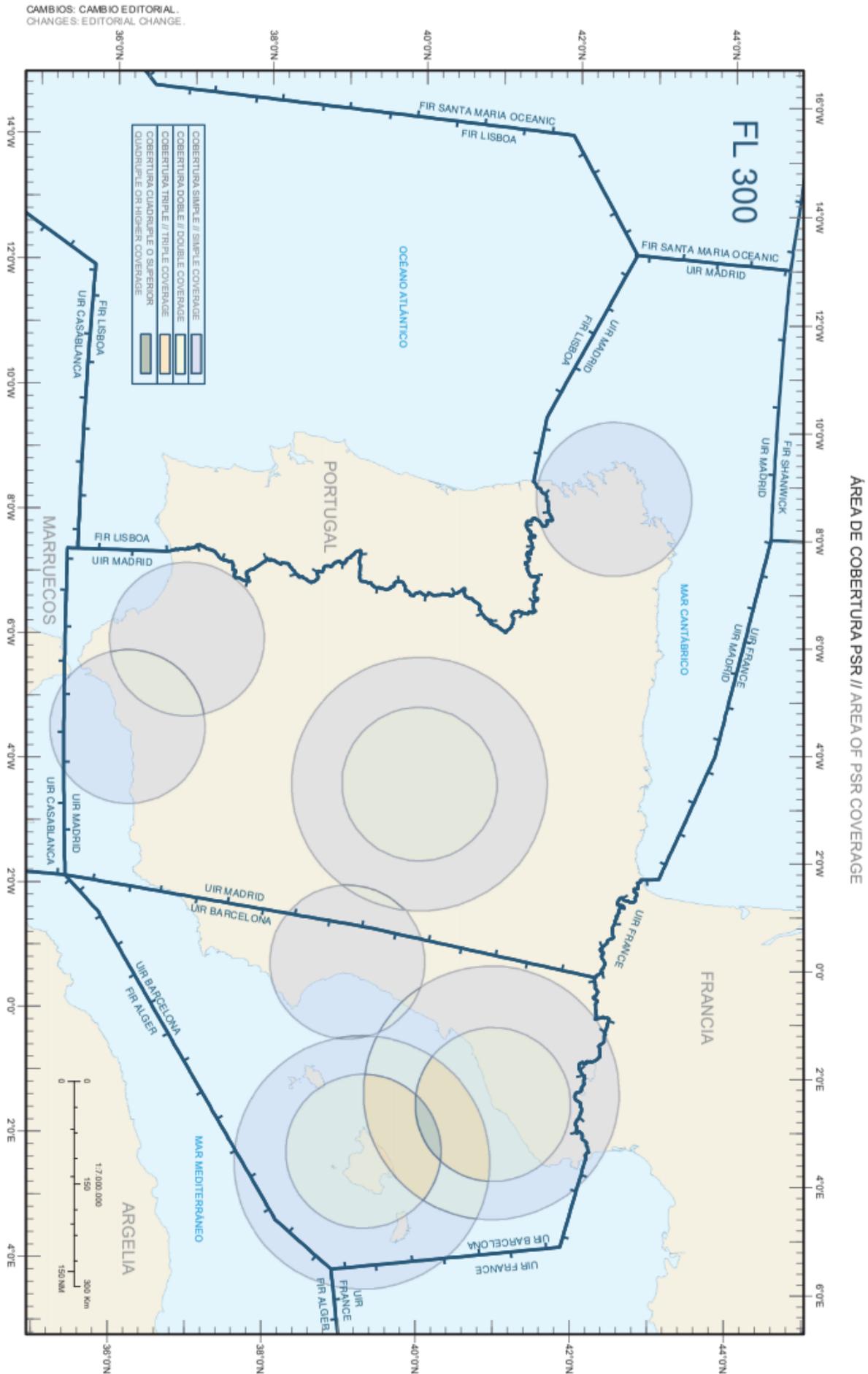
#### 1.1. COVERAGE AREA OF THE PRIMARY SURVEILLANCE RADAR (PSR).

Primary radar coverage maps are depicted below.



CAMBIOS: NUEVA DENOMINACIÓN DE 'ÁREA SAHARA FIR CANARIAS' A 'ÁREA SAHARA'.  
CHANGES: NEW NAMING OF 'AREA SAHARA FIR CANARIAS' TO 'AREA SAHARA'.







## 2. SECONDARY SURVEILLANCE RADAR (SSR)

### 2.1. USE OF THE TRANSPONDER.

With the exceptions that the Dirección General de Aviación Civil can concede, the use of the SSR transponder is mandatory for all aircraft that are airborne:

- a. Inside the FIR/UIR Madrid, Barcelona and Canary Islands at FL145 or above;
- b. Inside the Terminal Control Areas of Madrid, Zaragoza, Sevilla, Barcelona, Palma de Mallorca, Valencia with their delegated airspace (see ENR 2.2) and Canary Islands at whatever level; and
- c. Inside the transponder mandatory zones (TMZ).

The SSR transponders must have, at least, the A/3 Mode and have the capacity for 4096 response codes, except for those cases that have been specifically authorized that must have the capacity for 64 response codes.

The pilots will turn on their SSR transponders and will select the modes and codes complying with the ATC instructions, and in particular the automatic transmission of altitude of pressure device in Mode C if it has it, and they will keep them this way until they are told otherwise.

Aircraft pilots about to enter Madrid, Barcelona and Canarias FIR/UIR, who have not received specific ATC instructions regarding the SSR transponder setting, shall operate it prior to entry and until otherwise instructed, on the following modes and codes:

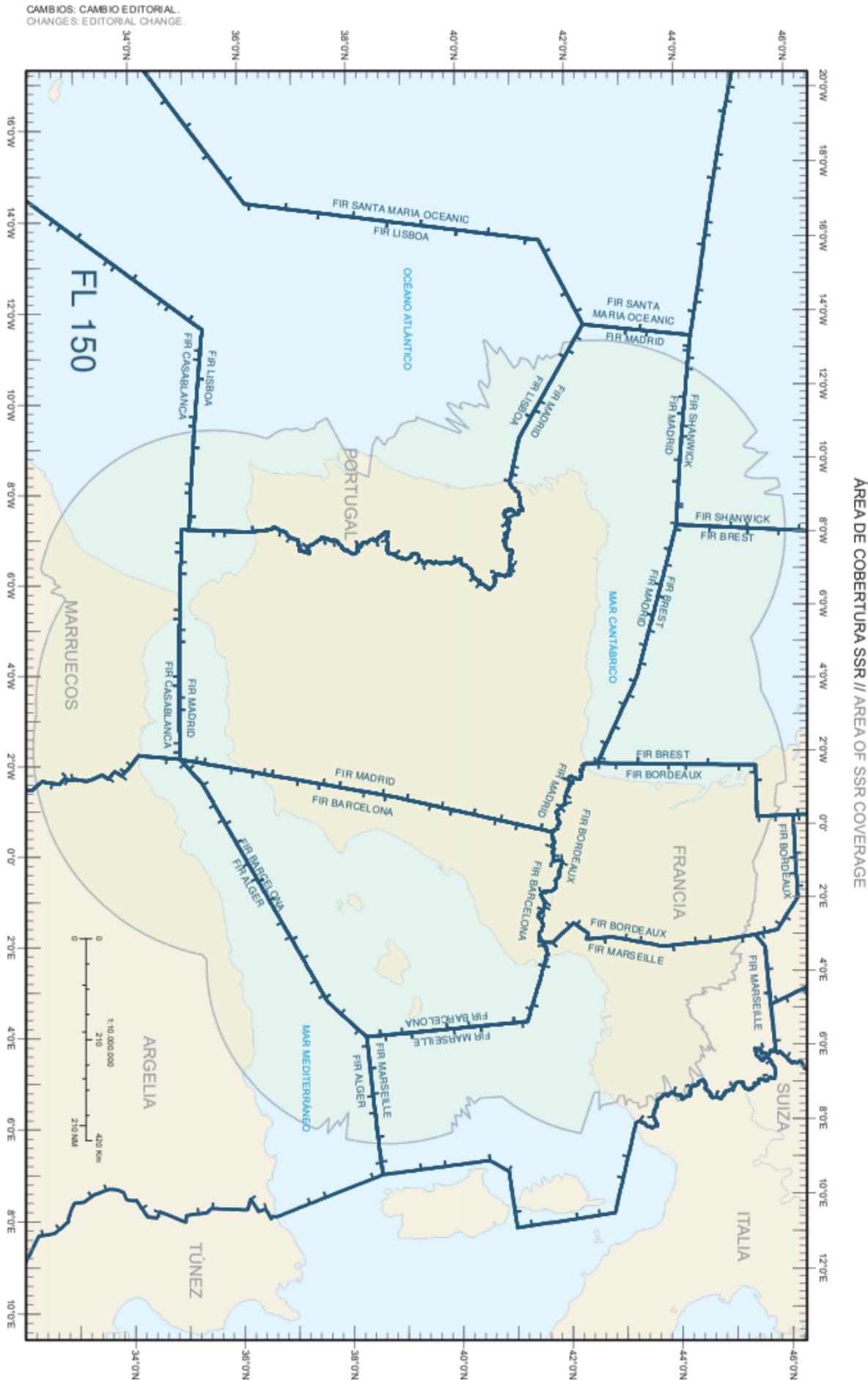
- a. Controlled flights: Mode A/3, code 20 (or 2000) and the automatic transmission of altitude of pressure device in Mode C, if they have it.
- b. Non controlled flights: Mode A/3, code 70 (or 7000) and the automatic transmission of altitude of pressure device in Mode C, if they have it.

### 2.2. CODE SSR ASSIGNATION SYSTEM.

The ATC units will assign the SSR codes according to the "European Management Plan of SSR codes" of OACI and to the most updated version of the SSR Code Assignment List (CAL) provided by the Network Manager Directorate.

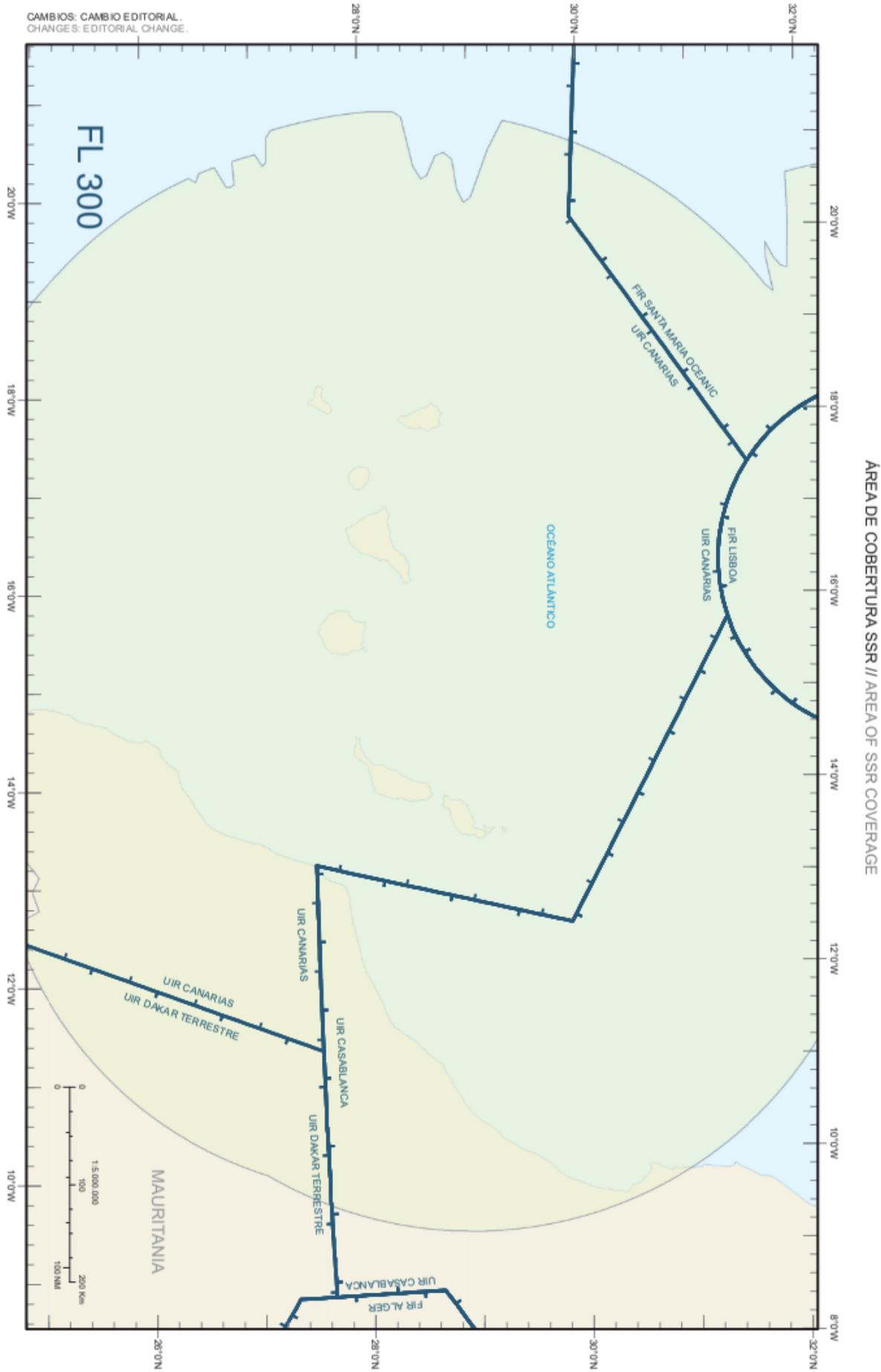
### 2.3. COVERAGE AREA OF THE SECONDARY SURVEILLANCE RADAR (SSR).

Secondary radar coverage maps are depicted below.









### 3. AUTOMATIC DEPENDENT SURVEILLANCE - BROADCAST (ADS-B).

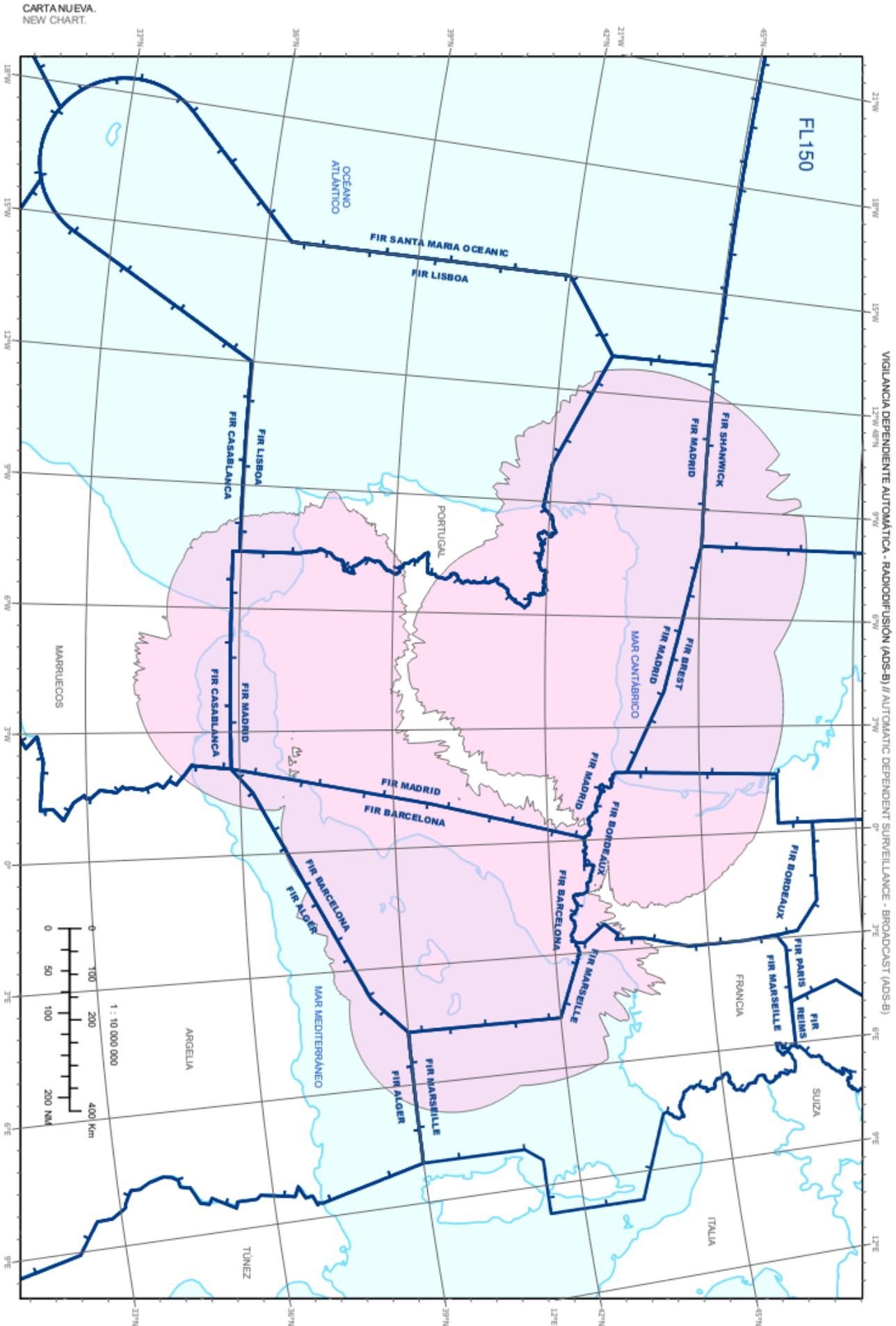
Commission Implementing Regulation (EU) 2023/1770 lays down the bases and obligations for both Air Traffic Services providers and Aircraft Operators regarding ADS-B (Automatic Dependent Surveillance-Broadcast), as an essential component in the surveillance chain.

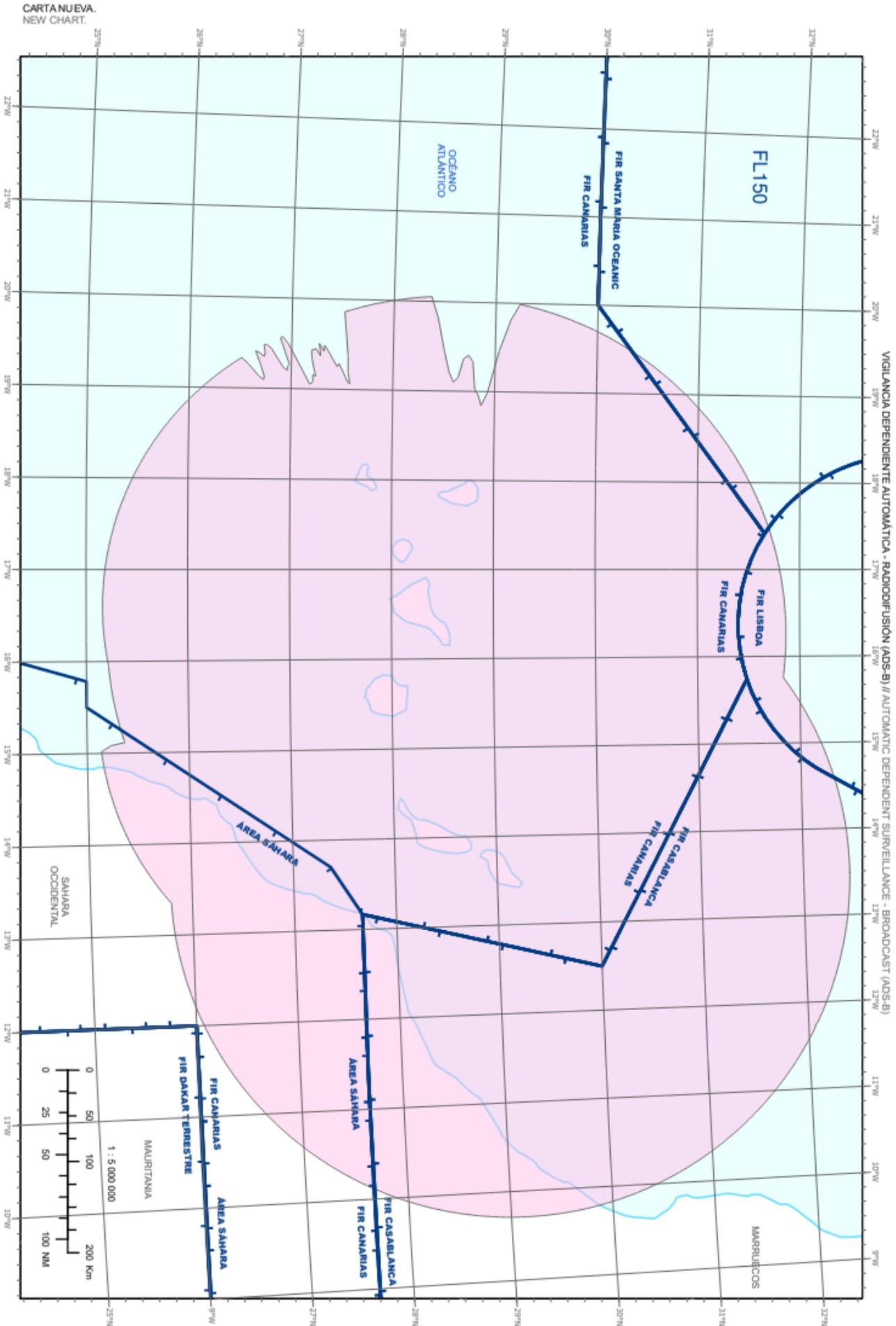
Aircraft that do not comply with the requirements of the aforesaid regulation shall always transmit a value of 0 (zero) on the position quality indicators or disable ADS-B transmission. The aircraft pilot shall be responsible for ensuring the appropriate integrity and accuracy of the ADS-B information.

The ADS-B messages broadcast will be processed by ADS-B sensors and integrated into the ATS surveillance system. ATS surveillance services based on ADS-B surveillance may be provided to aircraft transmitting ADS-B data if the data quality meets the quality requirements for the provision of air traffic services.

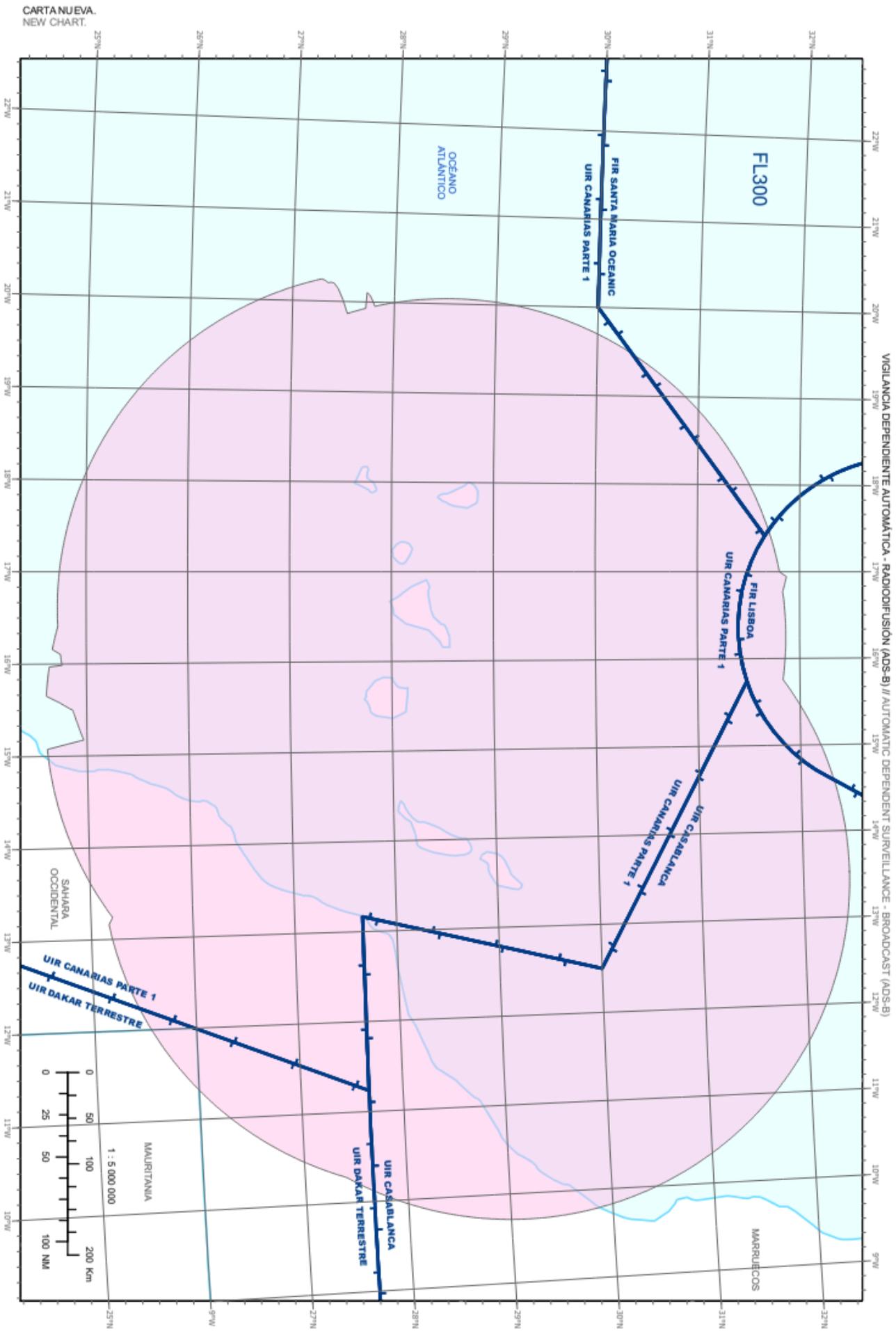
#### 3.1. AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B) COVERAGE AREA.

The ADS-B coverage maps are displayed below.









## 4. OTHER RELEVANT INFORMATION AND PROCEDURES

### 4.1. PROCEDURES IN CASE OF EMERGENCY.

In emergency situations, the pilot of the aircraft must adjust the transponder immediately to Mode A/3, code 77 (or 7700), and may transmit the ADS-B general emergency alert, except if he receives other orders from the air transit services unit.

Likewise, the pilot will be able to transmit the emergency message through Controller-pilot data link communications (CPDLC).

In the case that it is known or thought that an aircraft is in an emergency, the air transit services unit will offer full support to the aircraft, assistance and priority over other aircraft that the circumstances require. In the communications between the air transit services unit and the aircraft any principles concerning human factors must be looked out for.

### 4.2. PROCEDURES IN THE CASE OF UNLAWFUL INTERFERENCE.

Should there be any unlawful interference, proceed according to that indicated in ENR 1.13.

### 4.3. PROCEDURES IN CASE OF A FAILURE IN RADIO COMMUNICATIONS.

In the case of the failure of the radio receiver of the aircraft, the pilot must select Mode A/3, code 76 (or 7600), or transmit the ADS-B communications failure message and will follow the established procedures; the subsequent control of the aircraft will be based on said procedures.

### 4.4. PROCEDURE WHEN TRANSPONDER BREAKS DOWN.

In the case that the transponder fails, the Air Traffic Services will do everything possible to facilitate the continuation of the flight according to the FPL. However, under certain traffic situations, not only in the terminal but also en route, the continuation of the flight may not be possible, especially when the breakdown takes place right after take-off. If this occurs, the pilot may be asked to return to the aerodrome he left from or to go to another aerodrome suitable for the operator and the Air Traffic Services.

In all events, the pilot needs permission from Air Traffic Services to fly in an airspace where its use is obligatory.

### 4.5. PROCEDURE WHEN THERE IS A BREAKDOWN IN THE ATS SURVEILLANCE SYSTEM.

The procedures when there is a breakdown in the ATS surveillance system are described in ENR 2.3 - Air traffic services contingency plan (PCATS).

## 5. USE OF THE ATS SURVEILLANCE SYSTEM IN THE AIR TRAFFIC CONTROL SERVICE.

The information provided by the ATS surveillance systems and that is obtained depending on the situation can be used to carry out specific functions depending on the type of air transit control service provided.

### 5.1. CONTROL AREA SERVICE.

- a. Provide ATS surveillance services necessary to improve the use of the air space, reduce the delays, provide direct routing and optimal flight profiles, as well as to improve the safety;
- b. Provide a vector guide to aircraft that take off, with the purpose of making taking off quicker and more efficient and accelerate the climb until reaching cruise level.
- c. Provide a vectoring service for aircraft en route, with the purpose of resolving possible transit issues;
- d. Provide a vectoring service for aircraft that are arriving with the purpose of establishing an approach sequence that is smooth and efficient;
- e. Provide a vectoring service to help pilots during navigation, for example, to or from a radio navigation aid system, keeping away from bad weather conditions or from their proximity, etc.;

- f. Provide separation and maintain normal flow of transit when an aircraft suffers a communications breakdown inside the coverage area;
- g. Keep supervising the flight path when it is airborne;
- h. When needed, track and check the air transit along the way, to provide the procedural controller:
  - 1. More information about their position in relation to other aircraft that are under control;
  - 2. Supporting information with regards to another transit; and
  - 3. Information about any important deviation of course of the aircraft, compared to that stipulated by the air transit control authorities, including the flight paths that are authorised and the levels of flight where necessary.

## 5.2. APPROACH CONTROL SERVICE.

Apart from the functions provided for the area control service, the ATS surveillance information can be used to carry out the following functions when provisioning the approach control service:

- a. Provide a vectoring service to the arrival transit until there is help for the final approach that will be interpreted by the pilot;
- b. Provide tracking of the flight path in parallel ILS approaches and give instructions to aircraft so that they can take the measures that are necessary in case of possible or real penetrations in the no-transgression zone (NTZ);
- c. Provide a vectoring service to the arrival transit until the point at which it can be completed through a visual approach;
- d. Provide a vectoring service to the arrival transit until the point at which the approach can be completed with a precision radar or an approach with a surveillance radar;
- e. Provide tracking of the flight path in other approaches interpreted by the pilot;
- f. Perform according to the established procedures:
  - 1. Surveillance radar approach;
  - 2. Precision radar approach (PAR); and
- g. Provide separation between:
  - 1. Successive aircraft during departure;
  - 2. Successive aircraft during arrival; and
  - 3. An aircraft that departs and one that arrives right afterwards.

## 5.3. AERODROME SERVICE CONTROL.

When the provider of ATS service establishes it and subject to the conditions established by the same supplier, the ATS surveillance systems may be used in the provision of aerodrome control services to carry out the following functions:

- a. Supervision of the flight path of aircraft on final approach.
- b. Supervision of the flight path of other aircraft in the vicinity of the aerodrome.
- c. Establishment of adequate separation in accordance with RCA 4.6.7.3 between successive aircraft when departing; and
- d. Providing assistance for navigation to VFR flights.

No vectoring service will be given to VFR special flights unless the circumstances require it, such as emergencies.

Precaution must be taken when a vectoring service is given to VFR flights to make sure that the aircraft requesting it does not enter by accident into zones under instruments meteorological conditions.

When establishing the conditions and procedures that have been designated for the use of ATS surveillance systems when provisioning the aerodrome control service, the supplier of the ATS service will make sure that the availability and usage of the ATS surveillance system will not interfere with the visual observation of the flight path in the aerodrome.

## 5.4. SURFACE MOVEMENT CONTROL.

The SMR and/or MLAT must be used so that the visual observation of the transit in the maneuvering area is increased and to

provide surveillance of the transit in those parts of the manoeuvring area that can not be observed visually.

The information displayed on the SMR screen can be used for the following:

- a. Surveillance of aircraft and vehicles in the manoeuvring area to make sure that the authorizations and instructions are followed;
- b. Determine if a runway is free of transit before a landing or take-off;
- c. Provide information about essential local transit in the manoeuvring area or close to it;
- d. Determine the position of aircraft and vehicles in the manoeuvring area;
- e. Provide directions when the aircraft is taxiing if requested by the pilot or that the controller considers it necessary. Specific flight path instructions should not be given unless in special circumstances, for example in emergencies; and
- f. Provide assistance and advice to emergency vehicles.

## 6. MINIMUM HORIZONTAL SEPARATION.

### 6.1. ATS SURVEILLANCE WITH PRIMARY RADAR (PSR).

The following horizontal separation minima are set between primary surveillance tracks (PSR <-> PSR), between a primary surveillance track and a secondary surveillance track (PSR <-> SSR) and between a primary surveillance track and an ADS-B surveillance track (PSR <-> ADS), for TMA, APP and TWR airspaces:

PSR <-> PSR: 5 NM

PSR <-> SSR: 5 NM

PSR <-> ADS: 5 NM

### 6.2. EN-ROUTE ATS SURVEILLANCE WITH SECONDARY RADAR (SSR), MLAT AND/OR ADS-B.

The following horizontal separation minima are set between secondary surveillance tracks (SSR <-> SSR), between a secondary surveillance track and an ADS-B surveillance track (SSR <-> ADS) and between ADS-B surveillance tracks (ADS <-> ADS):

DEPENDENCIA UNIT	PISTA DE VIGILANCIA SURVEILLANCE TRACK	DISPONIBILIDAD SENSOR SENSOR AVAILABILITY	SEPARACIÓN MÍNIMA MINIMUM SEPARATION (a)
BARCELONA ACC CANARIAS ACC MADRID ACC SEVILLA ACC	SSR	Multiradar	5 NM
		Monoradar Civil Civil Monoradar	10 NM
		Monoradar Militar Militar Monoradar	15 NM
	ADS	-	5 NM

(a) The separation minima between a secondary surveillance track and an ADS-B surveillance track (SSR ADS) will be the greater of the separation minima applicable to SSR and ADS-B surveillance tracks.

### 6.3. ATS SURVEILLANCE IN APP WITH SECONDARY RADAR (SSR), MLAT AND/OR ADS-B.

The following horizontal separation minima are set between secondary surveillance tracks (SSR <-> SSR), between a secondary surveillance track and an ADS-B surveillance track (SSR <-> ADS) and between ADS-B surveillance tracks (ADS <-> ADS):

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SERVICE / AIRSPACE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA MINIMUM SEPARATION (a) (b)		ARP UTILIZADO ARP USED (d)
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability	de // from 0 a // to 30 NM ARP	de // from 30 a // to 60 (b) NM ARP (c)	
BARCELONA ACC (BARCELONA APP / BARCELONA TMA) CANARIAS ACC (GRAN CANARIA APP / CANARIAS TMA) MADRID ACC (MADRID APP / MADRID TMA) MÁLAGA TWR (MALAGA APP / SEVILLA TMA AREA 3) PALMA TACC (PALMA APP / PALMA TMA) SANTIAGO TACC (SANTIAGO APP / GALICIA TMA) SEVILLA ACC (SEVILLA APP / SEVILLA TMA) TENERIFE SUR TWR (TENERIFE SUR APP / CANARIAS TMA) VALENCIA TACC (VALENCIA APP / VALENCIA TMA)	SSR	Multiradar (Radar principal con PSR) (Main radar with PSR)	3 NM (e)		LEBL GCLP LEMD LEMG LEPA LEST LEZL GCTS LEVC
		Multiradar (Radar principal sin PSR) (Main radar without PSR)	3 NM (e)	5 NM	
		Monoradar (Radar principal con o sin PSR) (Main radar with or without PSR)			
		Multiradar o // or Monoradar (No radar principal) (Non main radar)	5 NM		
	ADS	-	5 NM		

(a) The separation minima between a secondary surveillance track and an ADS-B surveillance track (SSR ADS) will be the greater of the separation minima applicable to SSR and ADS-B surveillance tracks.

(b) 55 NM for Sevilla APP.

(c) For distances greater than the ARP, the applicable separation minima will be 5 NM.

(d) Respectively for each unit.

(e) Applicable separation minima of 2.5 NM between successive aircraft on the same final approach track, within 10 NM of the threshold, at:

- BARCELONA APP (LEBL AD), in HIRO operational conditions (see LEBL AD2 - Item 20).

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SERVICE / AIRSPACE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA MINIMUM SEPARATION (a)	ARP UTILIZADO ARP USED (d)
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability	de // from 0 a // to (b) 30 NM ARP (c)	
BILBAO TWR (BILBAO APP / BILBAO TMA) VALENCIA TACC (ALICANTE APP / VALENCIA TMA)	SSR	Multiradar o // or Monoradar (Radar principal) (Main radar)	3 NM	LEBB LEAL
		Multiradar o // or Monoradar (No radar principal) (Non main radar)	5 NM	
	ADS	-	5 NM	

(a) The separation minima between a secondary surveillance track and an ADS-B surveillance track (SSR ADS) will be the greater of the separation minima applicable to SSR and ADS-B surveillance tracks.

(b) 10 NM for Bilbao APP and 30 NM for Alicante APP.

(c) For distances greater than the ARP, the applicable separation minima will be 5 NM.

(d) Respectively for each unit.

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SERVICE / AIRSPACE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA MINIMUM SEPARATION (a)	ARP UTILIZADO ARP USED
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability	de // from 0 a // to 25 NM ARP (b)	
PALMA TACC (IBIZA APP / PALMA TMA)	SSR	Multiradar o // or Monoradar (Radar principal) (Main radar)	4 NM	LEIB
		Multiradar o // or Monoradar (No radar principal) (Non main radar)	5 NM	
	ADS	-	5 NM	

(a) The separation minima between a secondary surveillance track and an ADS-B surveillance track (SSR ADS) will be the greater of the separation minima applicable to SSR and ADS-B surveillance tracks.

(b) For distances greater than the ARP, the applicable separation minima will be 5 NM.

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SEIRSPACRVICE / AE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA MINIMUM SEPARATION	ARP UTILIZADO ARP USED
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability		
TENERIFE NORTE TWR (TENERIFE NORTE APP / CANARIAS TMA)	SSR	Multiradar o // or Monoradar (Radar principal) (Main radar)	5 NM	GCXO
		Multiradar o // or Monoradar (No radar principal) (Non main radar)		
	ADS	-	5 NM	

#### 6.4. VIGILANCIA ATS EN TWR CON RADAR SECUNDARIO (SSR), MLAT Y/O ADS-B.

Los valores de separación horizontal mínima reflejados en las siguientes tablas vienen determinados únicamente por la precisión de los sistemas de vigilancia ATS.

For their use in the provision of aerodrome control services, the specific authorization of the Competent Authority is necessary, which will determine the conditions and functions of the use of ATS surveillance systems.

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SERVICE / AIRSPACE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA (según la precisión del sistema de vigilancia ATS) MINIMUM SEPARATION (according to the accuracy of the ATS surveillance system) (a)
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability	
ALICANTE TWR (TWR / ALICANTE ATZ) BARCELONA TWR (TWR / BARCELONA ATZ) BILBAO TWR (TWR / BILBAO ATZ) CUATRO VIENTOS TWR (TWR / CUATRO VIENTOS ATZ) GRAN CANARIA TWR (TWR / GRAN CANARIA ATZ) MADRID TWR (TWR / MADRID BARAJAS ATZ) MALAGA TWR (TWR / MALAGA ATZ) PALMA TWR (TWR / PALMA ATZ)  (TWR / SANTIAGO ATZ) SEVILLA TWR (TWR / SEVILLA CTR) TENERIFE SUR TWR (TWR / TENERIFE SUR ATZ) VALENCIA TWR (TWR / VALENCIA ATZ)	SSR	Multiradar o // or Monoradar (Radar principal) (Main radar)	3 NM (b)
		Multiradar o // or Monoradar (No radar principal) (Non main radar)	5 NM
	ADS	-	5 NM

(a) The separation minima between a secondary surveillance track and an ADS-B surveillance track (SSR ADS) will be the greater of the separation minima applicable to SSR and ADS-B surveillance tracks.

(b) Applicable separation minima of 2.5 NM between successive aircraft on the same final approach track, within 10 NM of the threshold, at:

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SERVICE / AIRSPACE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA (según la precisión del sistema de vigilancia ATS) MINIMUM SEPARATION (according to the accuracy of the ATS surveillance system) (a)
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability	
ALMERIA TWR (TWR & APP / ALMERIA ATZ, CTR & TMA) ASTURIAS TWR (TWR & APP / ASTURIAS ATZ, CTR & TMA) IBIZA TWR (TWR / IBIZA CTR) JEREZ TWR (TWR / JEREZ CTR) LA PALMA TWR (TWR / LA PALMA CTR) LANZAROTE TWR (TWR / LANZAROTE ATZ) MELILLA TWR (TWR / MELILLA ATZ) MENORCA TWR (TWR & APP / MENORCA ATZ, CTR & PALMA TMA DELEGATION) SANTANDER TWR (TWR & APP / SANTANDER ATZ, CTR & TMA) TENERIFE NORTE TWR (TWR / TENERIFE NORTE ATZ)	SSR	Multiradar o // or Monoradar (Radar principal) (Main radar)	5 NM
		Multiradar o // or Monoradar (No radar principal) (Non main radar)	
	ADS	-	5 NM

DEPENDENCIA (SERVICIO ATS / ESPACIO AÉREO) UNIT (ATS SERVICE / AIRSPACE)	VIGILANCIA ATS ATS SURVEILLANCE		SEPARACIÓN MÍNIMA (según la precisión del sistema de vigilancia ATS) MINIMUM SEPARATION (according to the accuracy of the ATS surveillance system) (a)
	Pista de Vigilancia Surveillance Track	Disponibilidad Sensor Sensor Availability	
A CORUÑA TWR (TWR / A CORUÑA CTR) CASTELLON TWR (TWR / CASTELLON CTR) FUERTEVENTURA TWR (TWR / FUERTEVENTURA ATZ) GIRONA TWR (TWR & APP / GIRONA ATZ, CTR & BARCELONA TMA DELEGATION) GRANADA TWR (TWR & APP / GRANADA ATZ, CTR & SEVILLA TMA AREA 6) HIERRO TWR (TWR / AFIS / HIERRO ATZ / FIZ) LLEIDA TWR (TWR / LLEIDA ATZ & CTR) MURCIA TWR (TWR / MURCIA / REGION DE MURCIA CTR) RIOJA TWR (TWR & APP / LOGROÑO ATZ, CTR & CTA) PAMPLONA TWR (TWR & APP / PAMPLONA ATZ, CTR & CTA) REUS TWR (TWR & APP / REUS ATZ, CTR & BARCELONA TMA DELEGATION) SABADELL TWR (TWR / SABADELL ATZ) SAN SEBASTIAN TWR (TWR & APP / SAN SEBASTIAN ATZ, CTR & CTA)	SSR	Multiradar (Radar principal) (Main radar)	5 NM
VIGO TWR (TWR / VIGO CTR) VITORIA TWR (TWR & APP / VITORIA ATZ, CTR & CTA)	ADS	-	5 NM

## 7. ESTACIONES DE VIGILANCIA.

A continuación se recoge información relacionada con las estaciones de vigilancia con el siguiente significado:

Estación de vigilancia: Nombre de la estación de vigilancia. Alcance (en NM).

Tecnología de vigilancia:

(S): SSR Monopulse.

(P): Primary PSR.

(MLAT): Multilateration.

(SM): Mode-S.

(A): ADS-B.

Period (in seconds).

Type of station: Purpose of the surveillance station.

LRR: En-route.

TAR: Terminal Area.

WAM: Wide Area Multilateration.

SMR: Surface Movement Radar.

SMMS: Surface Movement Multilateration.

Units (ATS Service): Units to which the station provides surveillance information. The units, or specific ATS services, for which the station is the main radar appear in **CAPITAL LETTERS AND IN BOLD** . The units, or specific ATS services, for which the station is a radar used in contingency appear in *italics* .

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Aitana	(SM)	108	10	LRR	Barcelona ACC (Ibiza APP) Palma TACC <b>(San Javier APP)</b> Sevilla ACC Valencia TACC	Alicante TWR Castellón TWR Ibiza TWR Murcia TWR Reus TWR <b>San Javier TWR</b> Valencia TWR
Alcalá de los Gazules	(SM)	195	10	LRR	<b>(Málaga APP)</b> Sevilla ACC	Jerez TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Alcolea	(A)	200	2	-	Barcelona ACC Madrid ACC (Madrid APP) (Zaragoza APP)	Cuatro Vientos TWR Getafe TWR Madrid TWR Rioja TWR Torrejón TWR
	(SM)	200	5	LRR	Barcelona ACC Madrid ACC (Madrid APP) (Zaragoza APP)	Cuatro Vientos TWR Getafe TWR Madrid TWR Rioja TWR Torrejón TWR (Zaragoza APP)
Alicante AD RAD	(SM)	200	4	TAR	(ALICANTE APP) Barcelona ACC (Ibiza APP) Palma TACC Sevilla ACC Valencia TACC	ALICANTE TWR Ibiza TWR Murcia TWR
Alicante AD SA	(A)	90	2	-	(Alicante APP) Barcelona ACC (Ibiza APP) Palma TACC (San Javier APP) Valencia TACC	Albacete TWR Alicante TWR Ibiza TWR Murcia TWR San Javier TWR
As Pontes	(A)	200	2	-	Madrid ACC Santiago TACC	A Coruña TWR Asturias TWR León TWR Santiago TWR Vigo TWR
	(SM)	250	5	LRR	Madrid ACC Santiago TACC	A Coruña TWR Asturias TWR Santiago TWR Vigo TWR
Auch Lias	(SM)	200	5	LRR	Barcelona ACC	-

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Barajas	(A)	150	2	-	Madrid ACC (Madrid APP)	Cuatro Vientos TWR Getafe TWR Madrid TWR Torrejón TWR
	(SM)	120	2.4	TAR	Madrid ACC (Madrid APP)	Cuatro Vientos TWR Madrid TWR
Barajas-MLAT	(A)	100	1	-	Madrid ACC (Madrid APP)	Cuatro Vientos TWR Getafe TWR Madrid TWR Torrejón TWR
Barcelona AD	(A)	200	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Barcelona TWR Girona TWR Reus TWR Sabadell TWR
	(SM) (P)	200 (SM); 60 (P)	4	TAR	Barcelona ACC <b>(BARCELONA APP)</b> (Ibiza APP) Palma TACC Valencia TACC	<b>BARCELONA TWR</b> Girona TWR Reus TWR <b>Sabadell TWR</b>
Begas	(A)	200	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Barcelona TWR Castellón TWR Girona TWR Ibiza TWR Lleida TWR Menorca TWR Palma TWR Reus TWR Sabadell TWR
	(SM) (P)	250 (SM); 100 (P)	5	LRR	Barcelona ACC <b>(BARCELONA APP)</b> (Ibiza APP) Palma TACC Valencia TACC	<b>BARCELONA TWR</b> <b>CASTELLÓN TWR</b> Girona TWR Ibiza TWR Lleida TWR Menorca TWR Palma TWR <b>REUS TWR</b> <b>SABADELL TWR</b>

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
	(A)	200	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Barcelona TWR Castellón TWR Girona TWR Ibiza TWR Lleida TWR Menorca TWR Palma TWR Reus TWR Sabadell TWR
Begas PV	(SM)	200	4	LRR	Barcelona ACC <b>(BARCELONA APP)</b> (Ibiza APP) Palma TACC Valencia TACC	<b>BARCELONA TWR</b> <b>CASTELLÓN TWR</b> Girona TWR Ibiza TWR Lleida TWR Menorca TWR Palma TWR <b>REUS TWR</b> <b>SABADELL TWR</b>
Biarritz	(SM)	250	4	LRR	(Bilbao APP) Madrid ACC	Bilbao TWR Pamplona TWR Rioja TWR <b>SAN SEBASTIAN TWR</b> Santander TWR Vitoria TWR
Bilbao AD	(A)	120	1	-	(Bilbao APP) Madrid ACC	Bilbao TWR Pamplona TWR San Sebastián TWR Santander TWR
Burgos AD	(A)	120	1	-	(Bilbao APP) Madrid ACC (Madrid APP)	Santander TWR Vitoria TWR
Cabo Higuer	(A)	200	2	-	(Bilbao APP) Madrid ACC	Bilbao TWR Pamplona TWR San Sebastián TWR Santander TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Cancho Blanco	(SM)	250	4	LRR	Madrid ACC Sevilla ACC	Badajoz TWR Salamanca TWR
Constantina	(SM)	125	10	LRR	(Málaga APP) Sevilla ACC (Sevilla APP)	Granada TWR Jerez TWR Sevilla TWR
El Judío	(A)	200	2	-	Madrid ACC (Málaga APP) Sevilla ACC (Sevilla APP)	Armillá TWR Badajoz TWR Granada TWR Jerez TWR Málaga TWR Morón TWR Rota TWR Sevilla TWR
	(SM) (P)	200 (SM); 55 (P)	4	LRR	Madrid ACC (Málaga APP) Sevilla ACC (SEVILLA APP)	Armillá TWR Badajoz TWR Granada TWR JEREZ TWR Málaga TWR Morón TWR Rota TWR SEVILLA TWR
Erillas	(S)	175	5	LRR	Madrid ACC (Málaga APP) Sevilla ACC (Sevilla APP)	GRANADA TWR Jerez TWR Málaga TWR SEVILLA TWR
Espiñeiras	(A)	200	2	-	Madrid ACC Santiago TACC	A Coruña TWR Salamanca TWR Santiago TWR Vigo TWR
	(SM) (P)	250 (SM); 60 (P)	4	TAR	Madrid ACC SANTIAGO TACC	A CORUÑA TWR SANTIAGO TWR VIGO TWR
Foia	(SM)	250	7.6	LRR	Sevilla ACC	-

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Fuerteventura AD	(A)	200	2	-	Canarias ACC (Gran Canaria APP)	Fuerteventura TWR Lanzarote TWR
	(SM)	220	4	LRR	Canarias ACC (Gran Canaria APP)	<b>FUERTEVENTURA TWR</b> Lanzarote TWR
Gerona	(A)	150	2	-	Barcelona ACC (Barcelona APP)	Girona TWR
	(SM)	200	4	LRR	Barcelona ACC (Barcelona APP)	<b>GIRONA TWR</b>
Gran Canaria AD	(A)	200	2	-	Canarias ACC (Gran Canaria APP)	Gran Canaria TWR
	(SM) (P)	200 (SM); 100 (P)	4	LRR	Canarias ACC <b>(GRAN CANARIA APP)</b>	<b>GRAN CANARIA TWR</b>
Granada AD	(A)	120	2	-	Sevilla ACC (Sevilla APP) (Málaga APP)	<b>Armillá TWR</b> Granada TWR Málaga TWR
Inoges	(SM)	195	10	LRR	Barcelona ACC (Barcelona APP) Madrid ACC <b>(Zaragoza APP)</b>	Lleida TWR <b>PAMPLONA TWR</b> Reus TWR <b>Zaragoza TWR</b>

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Isla de la Palma	(A)	200	2	-	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP) (Tenerife Sur APP)	Hierro TWR La Palma TWR Tenerife Norte TWR Tenerife Sur TWR
	(SM)	250	4	LRR	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP) (Tenerife Sur APP)	Hierro TWR <b>LA PALMA TWR</b> Tenerife Norte TWR Tenerife Sur TWR
Lanzarote	(A)	200	2	-	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP)	Fuerteventura TWR Lanzarote TWR Tenerife Norte TWR
	(SM)	250	4	LRR	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP)	Fuerteventura TWR <b>LANZAROTE TWR</b> Tenerife Norte TWR
Málaga 1	(A)	200	2	-	(Málaga APP) Sevilla ACC (Sevilla APP)	Málaga TWR
	(SM)	200	4	TAR	<b>(MÁLAGA APP)</b> Sevilla ACC (Sevilla APP)	<b>MÁLAGA TWR</b>
Málaga 2	(S) (P)	200 (S); 60 (P)	4	TAR	<b>(MÁLAGA APP)</b> Sevilla ACC (Sevilla APP)	<b>MÁLAGA TWR</b>
Menorca	(A)	120	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC	Menorca TWR Palma TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Monflorite	(SM)	250	5	LRR	Madrid ACC Barcelona ACC (Barcelona APP) Zaragoza APP	LLEIDA TWR Pamplona TWR RIOJA TWR Zaragoza TWR
Monte del Perdón	(A)	120	1	-	(Bilbao APP) Madrid ACC (Madrid APP) Zaragoza APP	Bilbao TWR León TWR Pamplona TWR San Sebastián TWR Santander TWR Vitoria TWR
Montejunto	(SM)	250	8	LRR	Madrid ACC	-
Montpellier	(SM)	200	6	LRR	Barcelona ACC (Barcelona APP)	-
Motril	(SM)	195	10	LRR	(Málaga APP) Sevilla ACC (Sevilla APP)	Almería TWR Málaga TWR Melilla TWR
Palma de Mallorca	(A)	200	2	-	Barcelona ACC (Ibiza APP) Palma TACC Valencia TACC	Ibiza TWR Menorca TWR Palma TWR
	(SM) (P)	200 (SM); 60 (P)	4	TAR	Barcelona ACC (IBIZA APP) PALMA TACC Valencia TACC	Ibiza TWR Menorca TWR PALMA TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Paracuellos - 1	(A)	200	2	-	Barcelona ACC Madrid ACC (Madrid APP) Sevilla ACC (Sevilla APP) (Zaragoza APP)	Albacete TWR Cuatro Vientos TWR Getafe TWR Madrid TWR Salamanca TWR Torrejón TWR
	(SM) (P)	200(SM);120 (P)	5	TAR	Barcelona ACC Madrid ACC (MADRID APP) Sevilla ACC (Sevilla APP) (Zaragoza APP)	  Albacete TWR CUATRO VIENTOS TWR Getafe TWR MADRID TWR Torrejón TWR
Paracuellos - 2	(SM) (P)	200 (SM); 60 (P)	4	TAR	    Barcelona ACC Madrid ACC (MADRID APP) Sevilla ACC (Sevilla APP) (Zaragoza APP)	CUATRO VIENTOS TWR Getafe TWR MADRID TWR Torrejón TWR
Peñas del Chache	(SM)	195	10	LRR	Canarias ACC (Gran Canaria APP)	Fuerteventura TWR Lanzarote TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Pozo de las Nieves	(SM)	195	10	LRR	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP) (Tenerife Sur APP)	Hierro TWR Tenerife Norte TWR Tenerife Sur TWR
Porto Santo	(SM)	200	7.6	LRR	Canarias ACC (Gran Canaria APP)	-
Randa	(A)	200	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Ibiza TWR Menorca TWR Palma TWR
	(SM) (P)	200 (SM); 100 (P)	5	LRR	Barcelona ACC (Barcelona APP) (Ibiza APP) <b>PALMA TACC</b> Valencia TACC	<b>IBIZA TWR</b> <b>MENORCA TWR</b> <b>PALMA TWR</b>
Randa PV	(A)	200	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Ibiza TWR Menorca TWR Palma TWR
	(SM)	200 (SM)	4	LRR	Barcelona ACC (Barcelona APP) (Ibiza APP) <b>PALMA TACC</b> Valencia TACC	<b>IBIZA TWR</b> <b>MENORCA TWR</b> <b>PALMA TWR</b>

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
San Sebastián	(A)	120	2	-	(Bilbao APP) Madrid ACC	Bilbao TWR Pamplona TWR San Sebastián TWR Santander TWR Vitoria TWR
Sierra Espuña	(SM)	150	10	LRR	Barcelona ACC (San Javier APP) Sevilla ACC (Sevilla APP) Valencia TACC	Albacete TWR Alicante TWR MURCIA TWR San Javier TWR
Sóller	(SM)	← 120	10	LRR	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Ibiza TWR Menorca TWR Palma TWR
Solórzano	(A)	200	2	-	(Bilbao APP) Madrid ACC	Asturias TWR Bilbao TWR San Sebastián TWR Santander TWR Vitoria TWR
	(SM)	250	5	LRR	(BILBAO APP) Madrid ACC	Asturias TWR BILBAO TWR San Sebastián TWR SANTANDER TWR Vitoria TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Taborno	(A)	200	2	-	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP) (Tenerife Sur APP)	La Palma TWR Tenerife Norte TWR Tenerife Sur TWR
	(SM)	250	5	LRR	Canarias ACC (Gran Canaria APP) <b>(TENERIFE NORTE APP)</b> (Tenerife Sur APP)	La Palma TWR <b>TENERIFE NORTE TWR</b> Tenerife Sur TWR
Tenerife Sur AD	(A)	200	2	-	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP) (Tenerife Sur APP)	Hierro TWR Tenerife Norte TWR Tenerife Sur TWR
	(SM) (P)	200 (SM); 60 (P)	4	TAR	Canarias ACC (Gran Canaria APP) (Tenerife Norte APP) <b>(TENERIFE SUR APP)</b>	<b>HIERRO TWR</b> Tenerife Norte TWR <b>TENERIFE SUR TWR</b>
Turrillas	(SM)	200	4	TAR	Barcelona ACC (Málaga APP) <b>(San Javier APP)</b> Sevilla ACC (Sevilla APP) Valencia TACC	Alicante TWR <b>ALMERÍA TWR</b> Málaga TWR <b>MELILLA TWR</b> Murcia TWR <b>(San Javier TWR)</b>

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Valdespina	(SM)	215	4	LRR	(Bilbao APP) Madrid ACC Santiago TACC	Asturias TWR Bilbao TWR Pamplona TWR Rioja TWR Salamanca TWR Santander TWR Santiago TWR Valladolid TWR VITORIA TWR
Valencia AD RAD	(A)	200	2	-	Barcelona ACC (Barcelona APP) (Ibiza APP) Palma TACC Valencia TACC	Albacete TWR Castellón TWR Ibiza TWR Valencia TWR
	(SM) (P)	200 (SM); 60 (P)	4	LRR	Barcelona ACC (Barcelona APP) (Ibiza APP) Madrid ACC (Madrid APP) Palma TACC Sevilla ACC VALENCIA TACC	Castellón TWR Ibiza TWR VALENCIA TWR
Valencia AD SA	(A)	100	2	-	Barcelona ACC Madrid ACC Palma TACC Sevilla ACC Valencia TACC	Albacete TWR Castellón TWR Ibiza TWR Valencia TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Valladolid	(A)	200	2	-	Madrid ACC (Madrid APP) Santiago TACC	León TWR Salamanca TWR Valladolid TWR -
	(SM)	210	5	LRR	Madrid ACC (Madrid APP) Santiago TACC	León TWR Salamanca TWR Valladolid TWR
Vejer de la Frontera	(A)	100	2	-	Sevilla ACC (Sevilla APP) (Málaga APP)	Jerez TWR Málaga TWR Rota TWR Sevilla TWR
Villatobas	(SM)	195	10	LRR	Barcelona ACC Valencia TACC	Albacete TWR
Vitoria AD	(A)	120	1	-	(Bilbao APP) Madrid ACC (Zaragoza APP)	Bilbao TWR Pamplona TWR Rioja TWR Santander TWR San Sebastián TWR Vitoria TWR
Vigo AD GP	(A)	120	1	-	Madrid ACC Santiago TACC	Vigo TWR
Vigo AD TWR	(A)	120	1	-	Madrid ACC Santiago TACC	Vigo TWR
Yeste	(A)	130	2	-	Barcelona ACC Madrid ACC (Madrid APP) (San Javier APP) Sevilla ACC (Sevilla APP) Valencia TACC	Alicante TWR San Javier TWR

ESTACIÓN DE VIGILANCIA SURVEILLANCE STATION	TECNOLOGÍA DE VIGILANCIA SURVEILLANCE TECHNOLOGY	ALCANCE RANGE	PERIODO PERIOD	TIPO DE ESTACIÓN TYPE OF STATION	DEPENDENCIAS (SERVICIOS ATS) UNITS (ATS SERVICES)	
Zaragoza	(A)	120	1	-	Barcelona ACC (Barcelona APP) (Bilbao APP) Madrid ACC (Madrid APP) <b>Zaragoza APP</b>	Lleida TWR Pamplona TWR Reus TWR Rioja TWR Vitoria TWR <b>Zaragoza TWR</b>
WAM Asturias	(MLAT)	40	4	WAM	Madrid ACC	<b>ASTURIAS TWR</b>
MLAT Asturias	(MLAT)	5 ←	1	SMMS	-	Asturias TWR
MLAT Barajas	(MLAT)	5 ←	1	SMMS	-	Madrid TWR
MLAT Barcelona	(MLAT)	5 ←	1	SMMS	-	Barcelona TWR
MLAT Málaga	(MLAT)	5 ←	1	SMMS	-	Málaga TWR
MLAT Palma	(MLAT)	5 ←	1	SMMS	-	Palma TWR
MLAT Tenerife Norte	(MLAT)	SFC ←	1	SMMS	-	Tenerife Norte TWR
SMR Asturias	(P)	SFC	1 (60 RPM)	SMR	-	Asturias TWR
SMR Barajas Norte // North	(P)	SFC	1 (60 RPM)	SMR	-	Madrid TWR
SMR Barajas Sur // South	(P)	SFC	1 (60 RPM)	SMR	-	Madrid TWR
SMR Barcelona	(P)	SFC	1 (60 RPM)	SMR	-	Barcelona TWR
SMR Palma	(P)	SFC	1 (60 RPM)	SMR	-	Palma TWR
SMR Santiago	(P)	SFC	1 (60 RPM)	SMR	-	Santiago TWR
SMR Tenerife Norte	(P)	SFC	1 (60 RPM)	SMR	-	Tenerife Norte TWR