
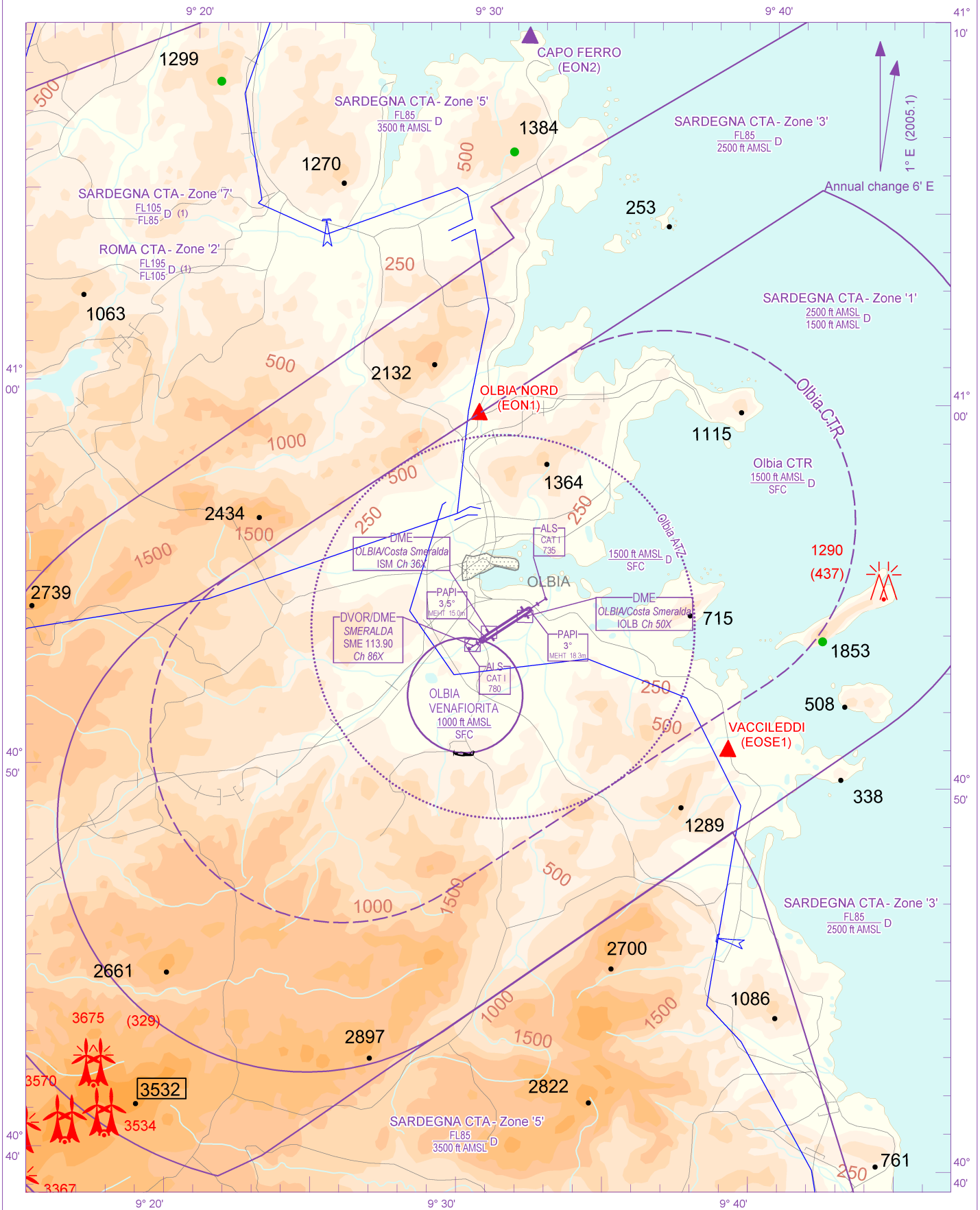


SCALE 1:250.000 	FIS Roma Information 125.750 / 134.125 APP Roma Radar 125.950 (127.125) TWR Olbia TWR 118.975 ATIS Olbia arrival and departure information 113.900	AD ELEV 37	L L E O  <b>OLBIA/COSTA SMERALDA</b>
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CHANGE: 'IOL' DME RENAMED IN 'IOLB', MEHT PAPI RWY 23 UPDATED AND NEW ALS CAT I RWY 23 IMPLEMENTED



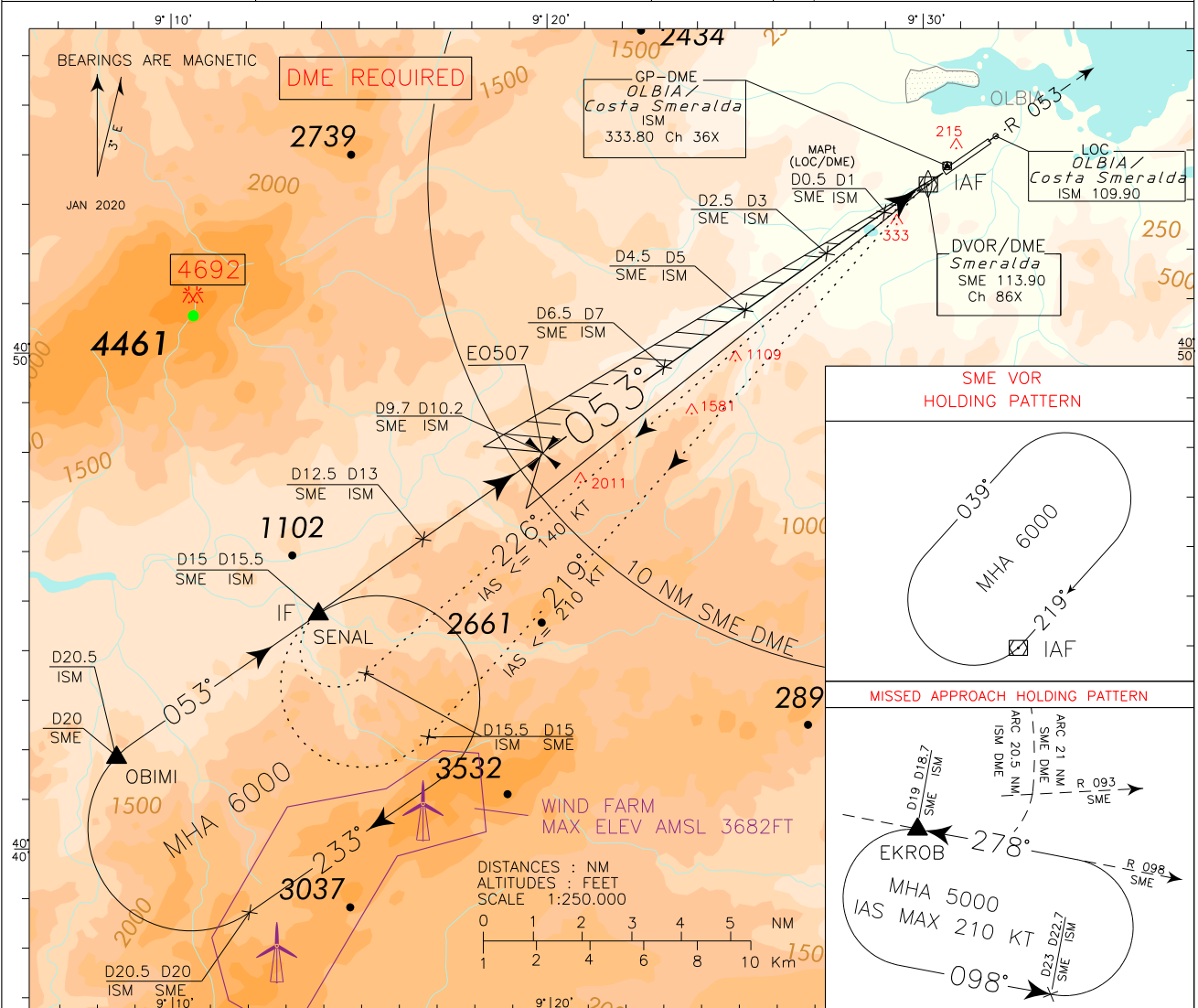
AIRSPACE CLASSIFICATION See AIP ENR 1.4 TRANSITION ALT 6000 FT ELEV AND ALT IN FT IF NOT OTHERWISE INDICATED	REMARK (1) Entire chart is included in Sardegna CTA Zone 7 and Roma CTA Zone 2	WARNING
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ICAO - INSTRUMENT APPROACH CHART

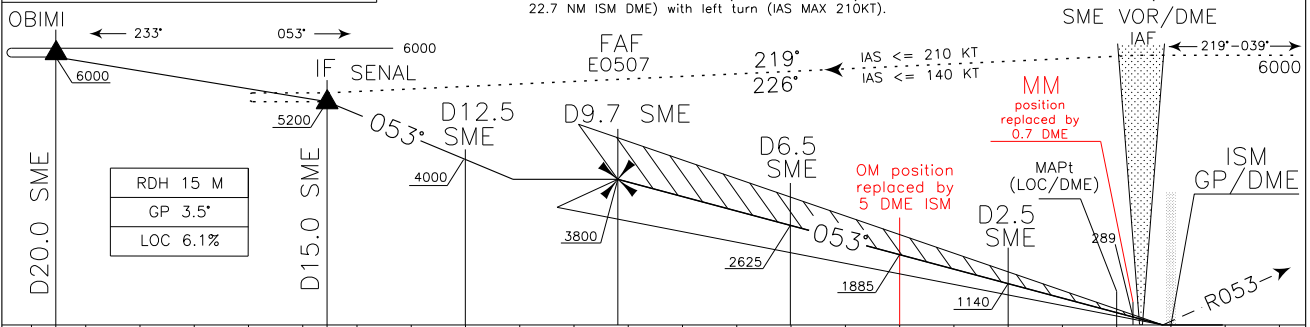
AD 2 LIEO 5-3

8 AMDT - 2014 - ED 6 - 2014 - DOC 8168  
 CHANGE: MAGNETIC VARIATION UPDATED

REMARK: (1) During night hours, PAPI indications mandatory	APP Roma Radar	125.950 (127.125)	AD ELEV	LIEO	OLBIA/ COSTA SMERALDA ILS or LOC RWY 05
	TWR Olbia TWR	118.975	37		
	ATIS Olbia arrival and departure information	113.900			



TRANSITION ALT 6000  
 MISSED APPROACH: Proceed on RDL 053 SME VOR climbing to 5000 ft. Cross 19 NM SME DME (18.5 NM ISM DME) at 2500 ft or above then turn right to join and follow 21NM ARC SME DME (20.5 NM ARC ISM DME) bound to EKROB. Hold on RDL 098 SME VOR (INBOUND TR 278°) between 19 NM and 23 NM SME DME (18.7 NM and 22.7 NM ISM DME) with left turn (IAS MAX 210KT).

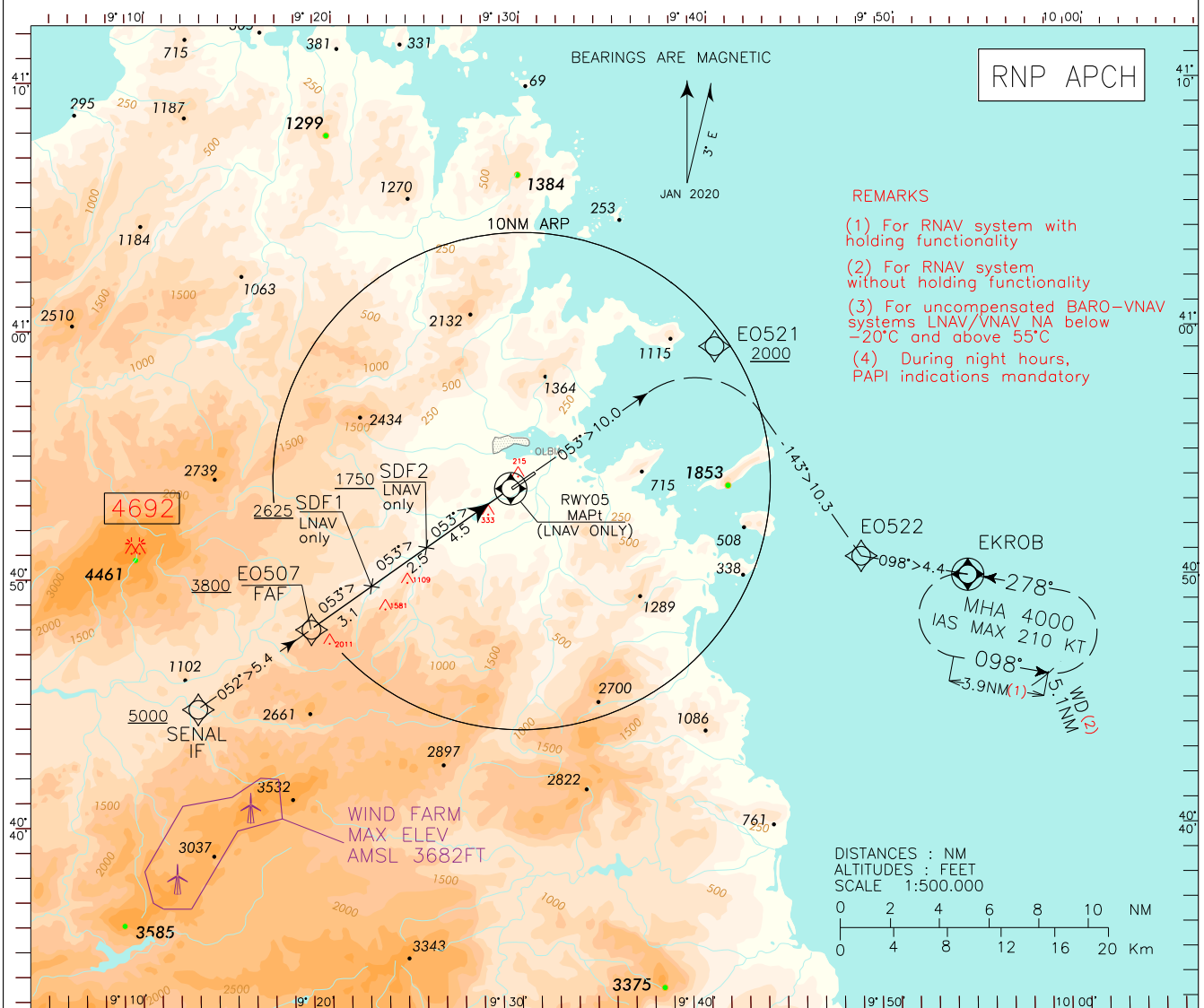


ISM DME	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2
SME DME	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2

OCA(OCH)		A	B	C	D	CIRCLING SECTORS  WARNING: DURING NIGHT AND IN IMC CONDITIONS CIRCLING IS FORBIDDEN	GS	FT PER MIN	FAF-OM	OM-MM	ISM DME	ALT (HGT)	MNM SECT ALT	
STRAIGHT IN APPROACH	ILS	310 (274)	320 (284)	330 (294)	340 (304)		80	496	3 : 54	3 : 14	7	2625 (2588)		
		LOC	640 (603)				100	620	3 : 07	2 : 34	6	2255 (2218)		
	DME						120	744	2 : 36	2 : 09	5	1885 (1848)		
CIRCLING (see warning) (*)		1200 (1163)	1600(1563)	1960(1923)		140	868	2 : 14	1 : 51	4	1515 (1478)			
						160	992	1 : 57	1 : 37	3	1140 (1103)			
						180	1116	1 : 44	1 : 26	1	400 (363)			

CHANGE: FAF ALTITUDE CONSTRAINT MODIFIED – REVISED PROCEDURE

APP	Roma Radar	125.950 (127.125)	AD ELEV	LIEO	OLBIA/ COSTA SMERALDA RNP RWY 05
TWR	Olbia TWR	118.975 (121.950)	37		
ATIS	Olbia arrival and departure information	113.900			

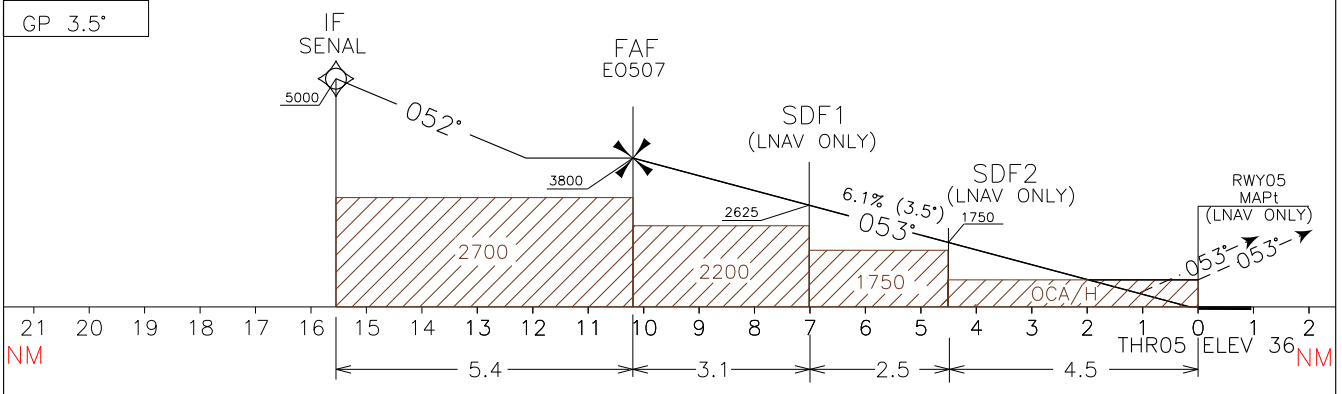


**REMARKS**

- (1) For RNAV system with holding functionality
- (2) For RNAV system without holding functionality
- (3) For uncompensated BARO-VNAV systems LNAV/VNAV NA below -20°C and above 55°C
- (4) During night hours, PAPI indications mandatory

TRANSITION ALT 6000 MISSED APPROACH: Proceed on TR 053° climbing to 4000ft. At E0521 (to be reached at 2000ft or above), turn right on TR 143° bound to E0522 then proceed direct to EKROB M.A. Holding pattern. Hold with left turn (IAS MAX 210KT).

RDH	15 M
GP	3.5°



STRAIGHT IN APPROACH	OCA(OCH)				CIRCLING SECTORS  WARNING: DURING NIGHT AND IN IMC CONDITIONS CIRCLING IS FORBIDDEN	GS	FT PER MIN	DISTANCE	ALT (HGT)	MNM SECT ALT ARP
	A	B	C	D						
LNAV/VNAV	610(574)				 6200	80	500	9	3430 (3394)	
	LNAV	820(784)				100	620	8	3060 (3024)	
CIRCLING (*) (see warning)		850 (814)	1200 (1164)	1600(1564)		1900(1864)	120	740	7	2690 (2654)
						140	870	6	2310 (2274)	
						160	990	5	1940 (1904)	
						180	1110	4	1570 (1534)	
							3	1200 (1164)		
							2	830 (794)		

**TABULAR DESCRIPTION Olbia/Costa Smeralda RNP RWY05 – Instrument Approach Procedure**

Serial Number	Path Terminator	Waypoint Identifier	Fly Over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed Limit (KT)	VPA (°) / TCH (MT)	Navigation Specification
010	IF	SENAL	-	-	-	-	-	+5000	-	-	RNP APCH
020	TF	EO507	-	052°(054.0°)	-	5.4	-	+3800	-	-	RNP APCH
040	TF	RWY05	Y	053°(055.3°)	-	10.0	-	@86 (4)	-	-3.5/15	RNP APCH
050	TF	EO521	-	053°(055.5°)	-	10.0	-	+2000	-	-	RNP APCH
060	TF	EO522	-	143°(145.5°)	-	10.3	-	-	-	-	RNP APCH
080	TF	EKROB	-	098°(100.4°)	-	4.4	-	+4000	-	-	RNP APCH
090	HM	EKROB	Y	278°(280.3°)	-	-	L	+4000	-210	-	RNAV1

Path Terminator	Waypoint Identifier	Inbound Course °M (°T)	Leg Distance (NM) (1)	Timing(min.)/ Waypoint Distance (NM) (2)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FL)	Speed Limit (kt)	Magnetic Variation (°)	Navigation Specification
HM	EKROB (2) (3)	278° (280.3°)	3.9	- / 5.1	L	+4000	-	-210	3	RNAV1

(1) RNAV system with holding functionality

(2) RNAV system without holding functionality

(3) Entry on Track.

(4) THR Altitude plus TCH; for MA transition the value is according to the minima LNAV or LPV.

**WAYPOINT LIST  
RNP RWY05**

Waypoint Identifier	Coordinates
EO507	40°47'55.3"N 009°19'38.2"E
EO521	40°59'18.0"N 009°41'21.2"E
EO522	40°50'48.7"N 009°49'02.2"E

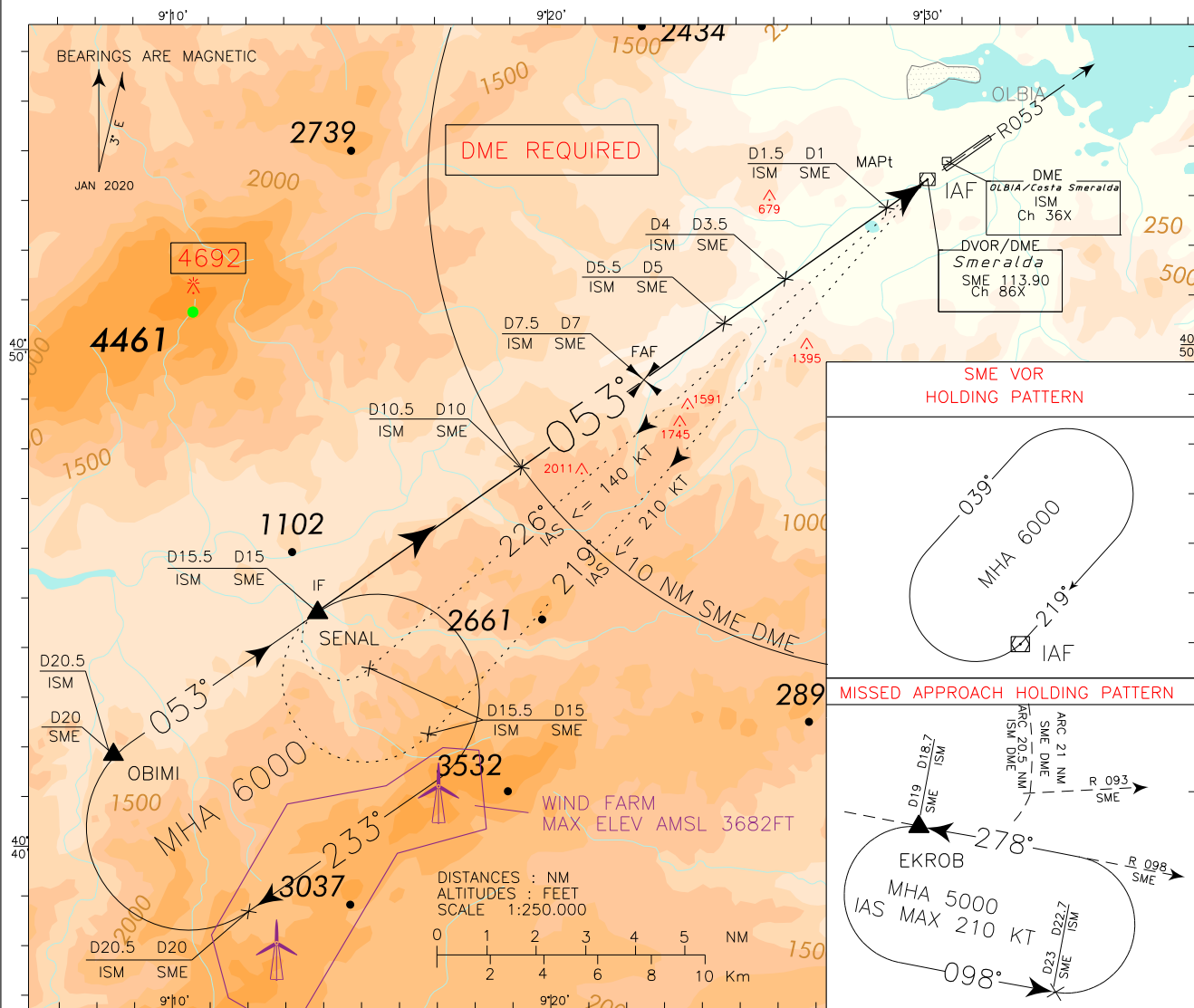
8 - AMDT 8  
 2014 - ED 6  
 DOC 8168  
 CHANGE: MAGNETIC VARIATION UPDATED

**REMARK:**  
 (1) During night hours,  
 PAPI indications mandatory

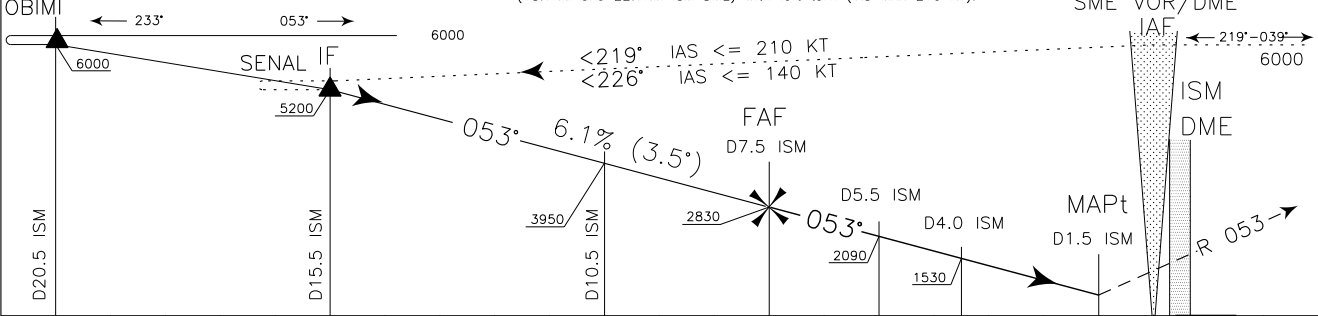
APP	Roma Radar	125.950 (127.125)
TWR	Olbia TWR	118.975
ATIS	Olbia arrival and departure information	113.900

AD ELEV  
37

LIEO  
 OLBIA/ COSTA SMERALDA  
 VOR RWY 05



TRANSITION ALT 6000  
 MISSED APPROACH: At 1NM SME DME (1.5NM ISM DME) proceed on RDL 053 SME VOR climbing to 5000 ft. Cross 19NM SME DME (18.5NM ISM DME) at 2500 ft or above, then turn right to join and follow 21NM ARC SME DME (20.5NM ARC ISM DME) bound to EKROB. Hold on RDL 098 SME VOR (INBOUND TR 278°) between 19NM and 23NM SME DME (18.7NM and 22.7NM ISM DME) with left turn (IAS MAX 210 KT).



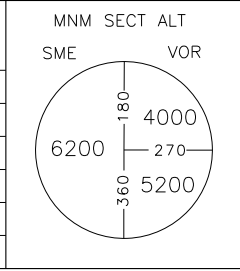
SME DME	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2
ISM DME	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	1	2

OCA(OCH)		A	B	C	D
STRAIGHT IN APPROACH	VOR	850 (813)			
	DME	1200 (1163)	1600 (1563)	1960 (1923)	

**CIRCLING SECTORS**  
 NOT ALLOWED

**WARNING:**  
 DURING NIGHT AND IN IMC CONDITIONS  
 CIRCLING IS FORBIDDEN

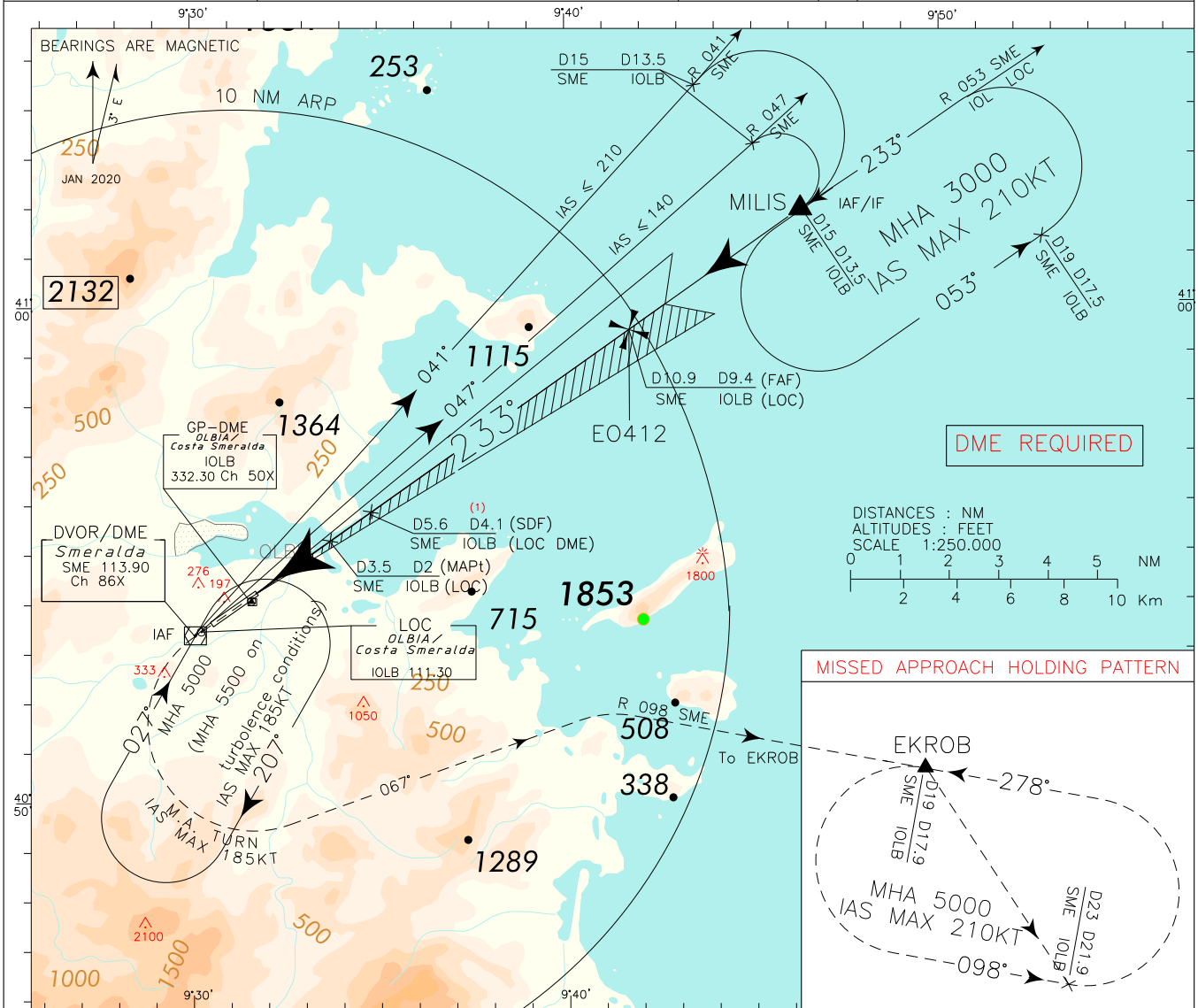
GS	FT PER MIN	FAF-D5 2 NM	D5-MAPt 4 NM	DME SME	ALT (HGT)
80	494	1 : 30	3 : 00	7	2830 (2793)
100	618	1 : 12	2 : 24	6	2460 (2423)
120	741	1 : 00	2 : 00	5	2090 (2053)
140	865	0 : 51	1 : 43	4	1720 (1683)
160	988	0 : 45	1 : 30	3	1345 (1308)
180	1112	0 : 40	1 : 20	2	975 (938)



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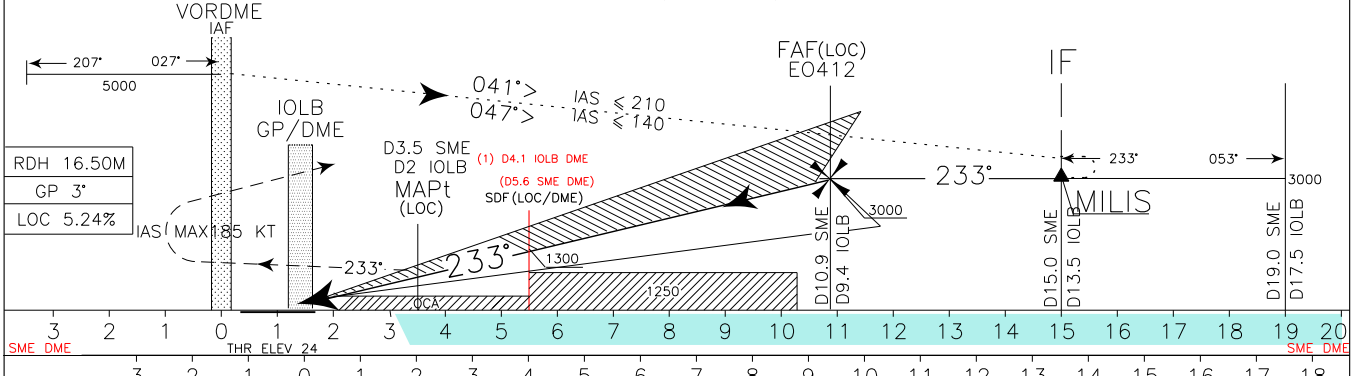
CHANGE: REVISED CHART

<b>REMARK</b> (1) OM position replaced by D4.1 IOLB DME	APP	Roma Radar	125.950 (127.125)	AD ELEV	LIEO	OLBIA/ COSTA SMERALDA ILS or LOC RWY 23
	TWR	Olbia TWR	118.975	37		
	ATIS	Olbia arrival and departure information 113.900				



TRANSITION ALT 6000

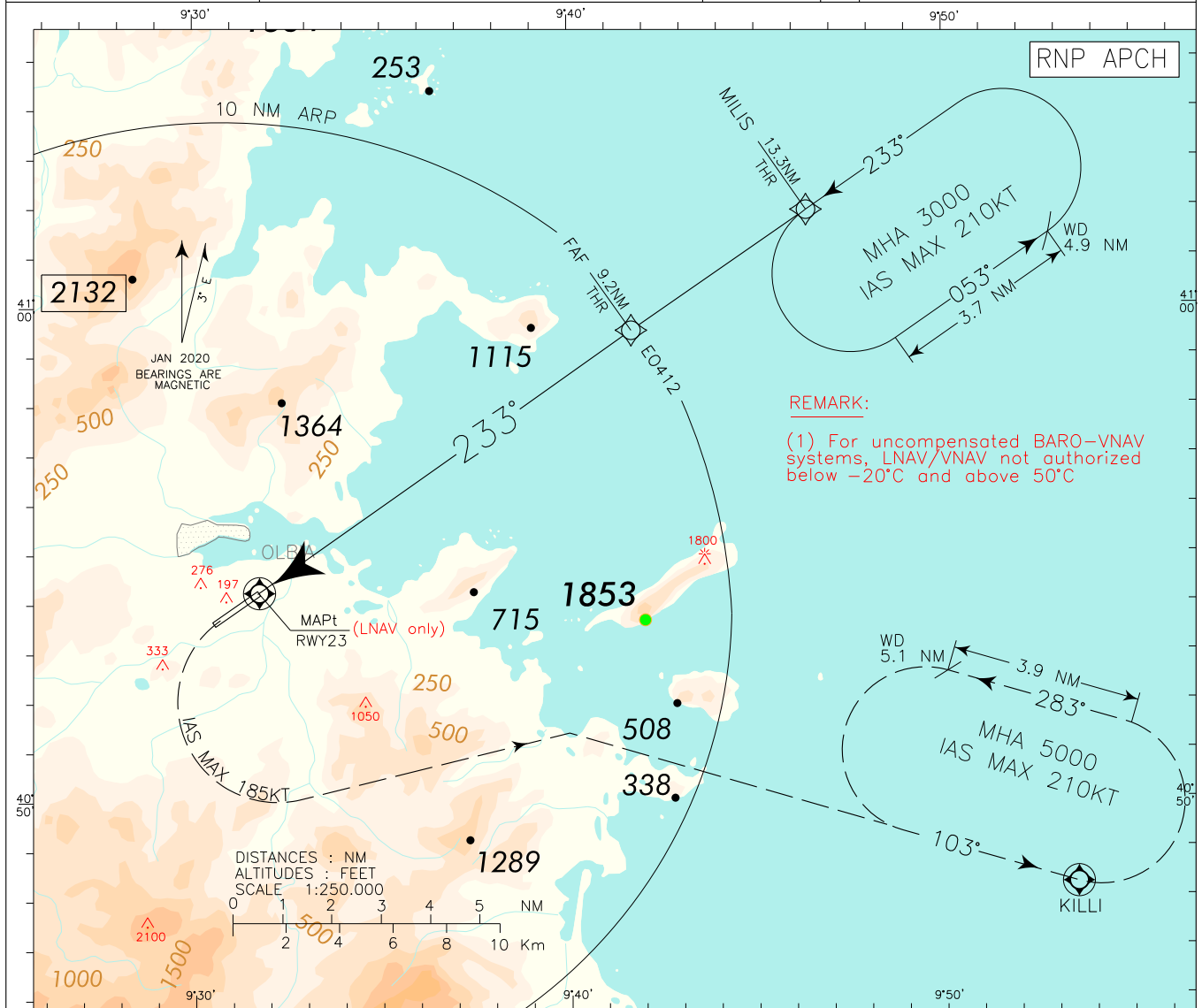
MISSED APPROACH: At 3.5 NM SME DME (2 NM IOLB DME) proceed on TR 233° and climb to 5000 ft. Over SME VOR turn left (IAS MAX 185 KT) on TR 067° to join RDL 098 SME VOR to EKROB. Hold on RDL 098 SME VOR (inbound TR 278°) between 19 NM and 23 NM SME DME (17.9 NM and 21.9 NM IOLB DME) with left turn (IAS MAX 210KT).



STRAIGHT IN APPROACH	ILS M.A. MNM CLIMB GRADIENT 5%	370 (346)	380 (356)	390 (366)	400 (376)	CIRCLING SECTORS NOT ALLOWED	GS	FT PER MIN	DME IOLB	ALT (HGT)	MNM SECT ALT SME VOR	
	ILS M.A. MNM CLIMB GRADIENT 2.5%	730 (706)	740 (716)	750 (726)	760 (736)		80	425		8		2560 (2536)
	LOC	750 (726)					100	531		7		2240 (2216)
	DME	750 (726)					120	637		6		1920 (1896)
CIRCLING (see warning) (*)	900 (863)	1200 (1163)	1600 (1563)	2030 (1993)	140	743	5	1600 (1576)				
					160	849	4	1280 (1256)				
							3	960 (936)				

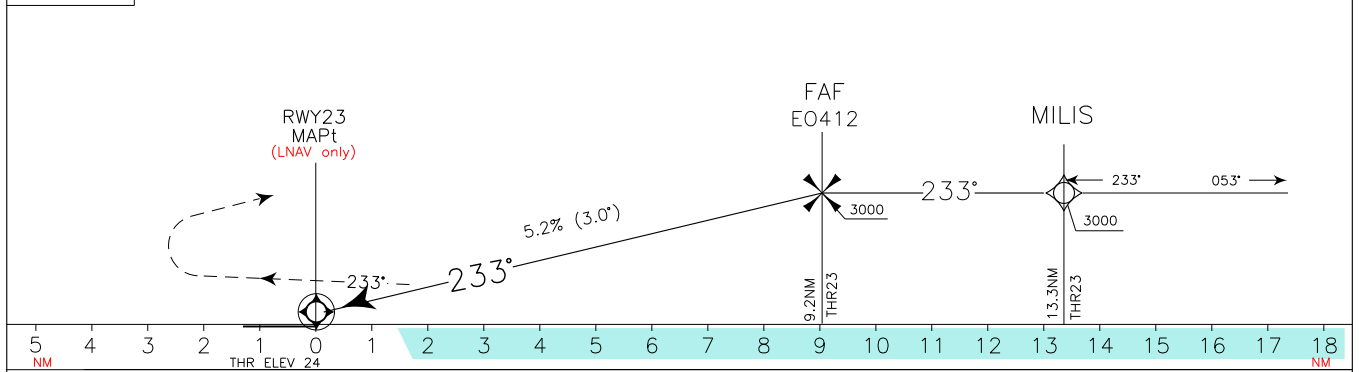
DOC 8168 ED 6 - 2014 AMD 8  
CHANGE: REVISED AND RENAMED CHART

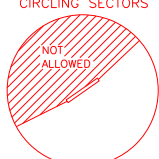
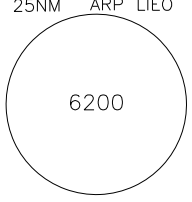
APP Roma Radar	125.950 (127.125)	AD ELEV	LIEO	OLBIA / COSTA SMERALDA RNP Z RWY 23
TWR Olbia TWR	118.975	37		
ATIS Olbia Arrival and Departure Information	113.900			



**REMARK:**  
(1) For uncompensated BARO-VNAV systems, LNAV/VNAV not authorized below -20°C and above 50°C

TRANSITION ALT 6000  
TCH 16.50M  
**MISSED APPROACH:** Proceed on TR 233° climbing to 5000ft. At 1050ft, not before RWY23, turn left (IAS MAX 185KT) to KILLI on course 103° (Hold with left turn, IAS MAX 210KT).



OCA(OCH)		A	B	C	D	CIRCLING SECTORS  <b>WARNING:</b> DURING NIGHT AND IN IMC CONDITIONS CIRCLING IS FORBIDDEN	GS	FT PER MIN	FAF-THR	DIST	ALT (HGT)	MNM SECT ALT 25NM ARP LIEO 
STRAIGHT IN APPROACH									9.2 NM	THR 23		
LNAV/VNAV		819 (795)	831 (807)	839 (815)	850 (826)		80	425	6 : 54	9	2936 (2912)	6200
		1050 (1026)					100	530	5 : 31	8	2618 (2594)	
LNAV							120	635	4 : 36	7	2300 (2276)	
							140	745	3 : 57	6	1982 (1958)	
							160	850	3 : 27	5	1664 (1640)	
CIRCLING (*) (see warning)		1200 (1163)	1600 (1563)	2030 (1993)			180	955	3 : 04	4	1346 (1322)	

### TABULAR DESCRIPTION Olbia/Costa Smeralda RNP Z RWY23 – Instrument Approach Procedure

Serial Number	Path Terminator	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft)	Speed Limit (kt)	VPA/TCH	Navigation Specification
010	IF	MILIS	-	-	-	-	-	+3000	-	-	RNP APCH
020	TF	EO412		233° (235.5°)		4.1		+3000			RNP APCH
030	TF	RWY23	Y	233° (235.5°)		9.2	-	@78	-	-3°/16.5M	RNP APCH
040	CA	-		233° (235.5°)	3		-	+1050	-185	-	RNP APCH
050	CF	KILLI	Y	103° (105.8°)	3	-	L	+5000	-185		RNP APCH

Path Terminator	Waypoint Identifier	Inbound Course °M (°T)	Leg Distance (NM) (1)	Timing(min.)/ Waypoint Distance (NM) (2)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FL)	Speed Limit (kt)	Magnetic Variation (°)	Navigation Specification
HM	KILLI	103° (105.8°)	3.9	-/5.1	L	+5000	-	-210	3	RNAV 1
HM	MILIS	233° (235.5°)	3.7	-/4.9	L	+3000	-	-210	3	RNAV 1

(1) RNAV system with holding functionality

(2) RNAV system without holding functionality

### WAYPOINT LIST RNP Z RWY23

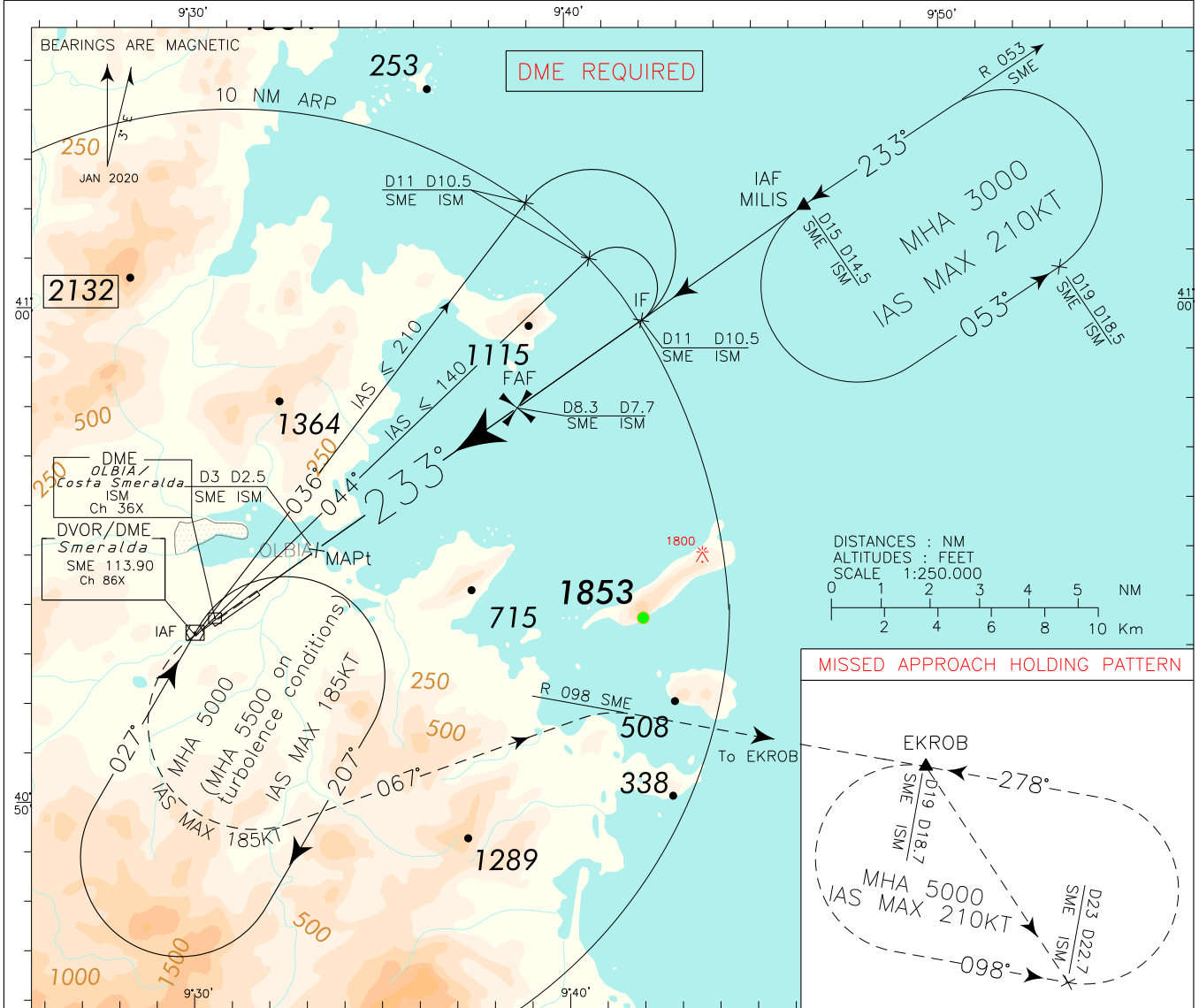
Waypoint Identifier	Coordinates
EO412	40°59'35.55" N 09°41'55.70" E



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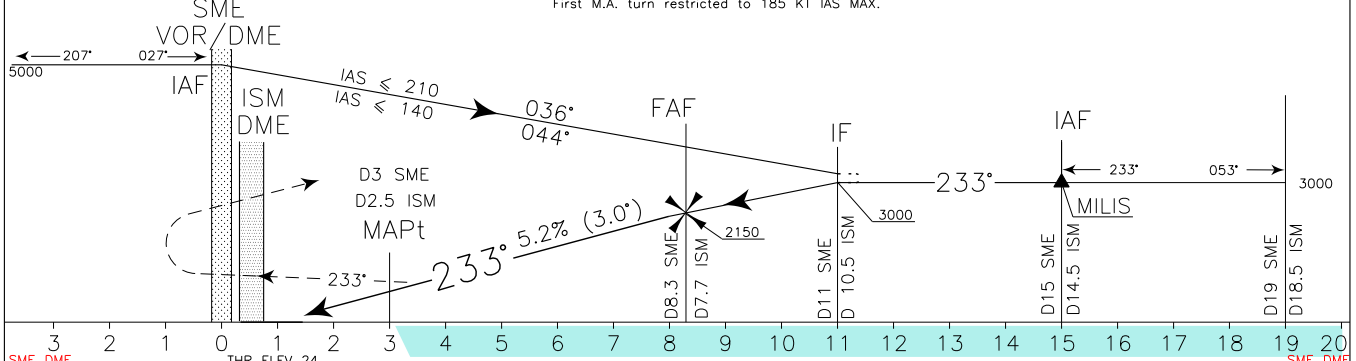
CHANGE: REVISED AND RENAMED CHART

APP Roma Radar 125.950 (127.125)	AD ELEV 37	L I E O	OLBIA/ COSTA SMERALDA
TWR Olbia TWR 118.975			VOR RWY 23
Olbia arrival and ATIS departure information 113.900			



**TRANSITION ALT 6000**

**MISSED APPROACH:** At D3 SME DME (2.5 ISM DME) proceed on MAG TR 233° and climb to 5000 ft. Over SME VOR/DME turn left on MAG TR 067° to join RDL 098 SME VOR to EKROB. Hold on RDL 098 SME VOR (inbound track 278°) between D19 and D23 SME DME (D18.7 and D22.7 ISM DME) with left turn (IAS MAX 210KT). First M.A. turn restricted to 185 KT IAS MAX.

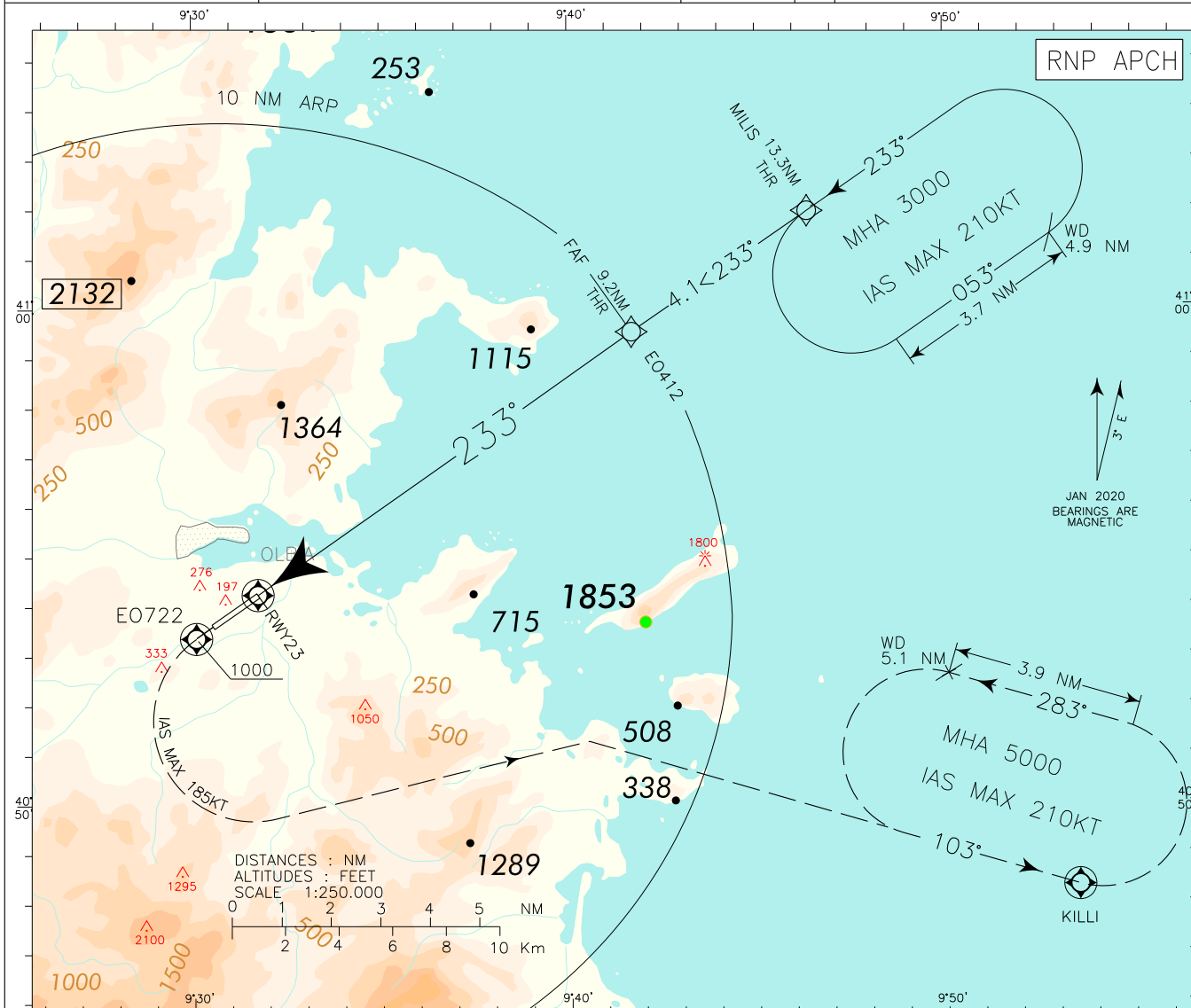


SME DME	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
ISM DME	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	

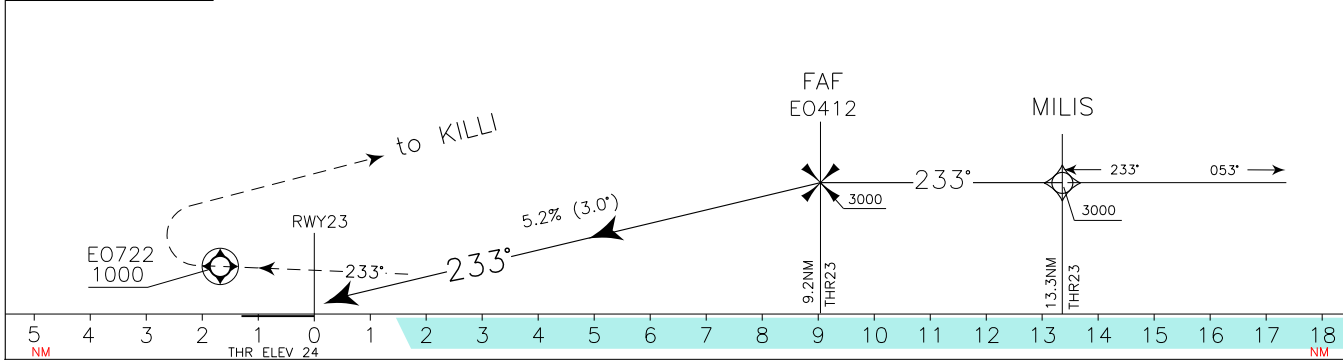
OCA(OCH)		A	B	C	D	<b>CIRCLING SECTORS</b>  <b>WARNING:</b> DURING NIGHT AND IN IMC CONDITIONS CIRCLING IS FORBIDDEN	<table border="1"> <tr> <th>GS</th> <th>FT PER MIN</th> <th>FAF-MAPt</th> <th>MAPt-THR</th> <th>SME DME</th> <th>ALT (HGT)</th> </tr> <tr> <td>80</td> <td>425</td> <td>3 : 59</td> <td>0 : 56</td> <td>8</td> <td>2060 (2036)</td> </tr> <tr> <td>100</td> <td>530</td> <td>3 : 11</td> <td>0 : 45</td> <td>7</td> <td>1740 (1716)</td> </tr> <tr> <td>120</td> <td>635</td> <td>2 : 39</td> <td>0 : 37</td> <td>6</td> <td>1420 (1396)</td> </tr> <tr> <td>140</td> <td>745</td> <td>2 : 16</td> <td>0 : 32</td> <td>5</td> <td>1120 (1096)</td> </tr> <tr> <td>160</td> <td>850</td> <td>1 : 59</td> <td>0 : 28</td> <td>4</td> <td></td> </tr> </table>	GS	FT PER MIN	FAF-MAPt	MAPt-THR	SME DME	ALT (HGT)	80	425	3 : 59	0 : 56	8	2060 (2036)	100	530	3 : 11	0 : 45	7	1740 (1716)	120	635	2 : 39	0 : 37	6	1420 (1396)	140	745	2 : 16	0 : 32	5	1120 (1096)	160	850	1 : 59	0 : 28	4		<table border="1"> <tr> <th colspan="2">MNM SECT ALT</th> </tr> <tr> <td>SME</td> <td>VOR</td> </tr> <tr> <td>6200</td> <td>4000</td> </tr> <tr> <td>360</td> <td>270</td> </tr> <tr> <td></td> <td>5200</td> </tr> </table>	MNM SECT ALT		SME	VOR	6200	4000	360	270		5200
GS	FT PER MIN	FAF-MAPt	MAPt-THR	SME DME	ALT (HGT)																																																	
80	425	3 : 59	0 : 56	8	2060 (2036)																																																	
100	530	3 : 11	0 : 45	7	1740 (1716)																																																	
120	635	2 : 39	0 : 37	6	1420 (1396)																																																	
140	745	2 : 16	0 : 32	5	1120 (1096)																																																	
160	850	1 : 59	0 : 28	4																																																		
MNM SECT ALT																																																						
SME	VOR																																																					
6200	4000																																																					
360	270																																																					
	5200																																																					
STRAIGHT IN APPROACH	VOR DME	850 (826)																																																				
CIRCLING (see warning) (*)		1400 (1363)	1600 (1563)	2030 (1993)																																																		

DOC 8168 ED 6 – 2014-AMD 8  
CHANGE: NEW CHART

EGNOS CH 90647 E23D	APP Roma Radar	125.950 (127.125)	AD ELEV 37	L E O	OLBIA / COSTA SMERALDA RNP W RWY 23 (LPV only)
	TWR Olbia TWR	118.975			
	ATIS Olbia arrival and departure information	113.900			



TRANSITION ALT 6000 MISSED APPROACH: Climbing to 5000ft proceed direct to E0722 (MCA 1000ft) then turn left (IAS MAX 185KT) to KILLI on course 103°. (Hold with left turn, IAS MAX 210KT).  
TCH 16.50M



OCA(OCH)		A	B	C	D	CIRCLING SECTORS  WARNING: DURING NIGHT AND IN IMC CONDITIONS CIRCLING IS FORBIDDEN	GS	FT PER MIN	FAF-THR	DIST	ALT (HGT)	MNM SECT ALT
STRAIGHT IN APPROACH	LPV	729 (705)	741 (717)	749 (725)	760 (736)		THR 23	9.2 NM	THR 23	9	2936 (2912)	25NM ARP LIEO
							80	425	6 : 54	8	2618 (2594)	
							100	530	5 : 31	7	2300 (2276)	
							120	635	4 : 36	6	1982 (1958)	
							140	745	3 : 57	5	1664 (1640)	
							160	850	3 : 27	4	1346 (1322)	
	CIRCLING (*) (see warning)	1200 (1163)		1600 (1563)	2030 (1993)		180	955	3 : 04			

**TABULAR DESCRIPTION Olbia/Costa Smeralda RNP W RWY23 (LPV only) – Instrument Approach Procedure**

Serial Number	Path Terminator	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft)	Speed Limit (kt)	VPA/TCH	Navigation Specification
010	IF	MILIS	-	-	-	-	-	+3000	-	-	RNP APCH
020	TF	EO412	-	233° (235.5°)	-	4.1	-	+3000	-	-	RNP APCH
-	TF	RWY23	Y	233° (235.5°)	-	9.2	-	@78	-	-3°/16.5M	RNP APCH
-	FA	RWY23	-	233° (235.5°)	3	-	-	+795	-	-	RNP APCH
030	DF	EO722	Y	-	-	1.7	-	+1000	-185	-	RNP APCH
040	CF	KILLI	Y	103° (105.8°)	3	-	L	+5000	-185	-	RNP APCH

Path Terminator	Waypoint Identifier	Inbound Course °M (°T)	Leg Distance (NM) (1)	Timing(min.)/ Waypoint Distance (NM) (2)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FL)	Speed Limit (kt)	Magnetic Variation (°)	Navigation Specification
HM	KILLI	103° (105.8°)	3.9	-/5.1	L	+5000	-	-210	3	RNAV 1
HM	MILIS	233° (235.5°)	3.7	-/4.9	L	+3000	-	-210	3	RNAV 1

(1) RNAV system with holding functionality

(2) RNAV system without holding functionality

**WAYPOINT LIST  
RNP W RWY23 (LPV only)**

Waypoint Identifier	Coordinates
EO412	40°59'35.55" N 09°41'55.70" E
EO722	40°53'24.16" N 09°30'04.60" E

## SBAS FAS DATA BLOCK LIEO RNP W RWY23 (LPV only)

INPUT DATA	
PARAMETERS	VALUES
Operation Type	0
SBAS Provider	1
Airport Identifier	LIEO
Runway	23
Runway Direction	0
Approach Performance Designator	0
Route Indicator	W
Reference Path Data Selector	0
Reference Path Identifier	E23D
LTP/FTP Latitude	405423.1110N
LTP/FTP Longitude	0093156.8350E
LTP/FTP Ellipsoidal Height (metres)	54.4
FPAP Latitude	405332.6740N
Delta FPAP Latitude (seconds)	-50.4370
FPAP Longitude	0093020.4585E
Delta FPAP Longitude (seconds)	-96.3765
Threshold Crossing Height	16.50
TCH Units Selector	1
Glidepath Angle (degrees)	3.00
Course Width (metres)	105.00
Length Offset (metres)	0
HAL	40
VAL	35

OUTPUT DATA	
Data Block	10 0F 05 09 0C 17 B8 00 04 33 32 05 0E 1D 8E 11 46 44 17 04 20 16 F6 75 FE 0F 0F FD 4A 81 2C 01 64 00 C8 AF C8 43 24 03
Calculated CRC Value	C8432403

REQUIRED ADDITIONAL DATA (NOT CRC WRAPPED)	
ICAO Code	LI
LTP/FTP Orthometric Height (metres)	7.2
FPAP Orthometric Height (metres)	11.3

Intenzionalmente bianca

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