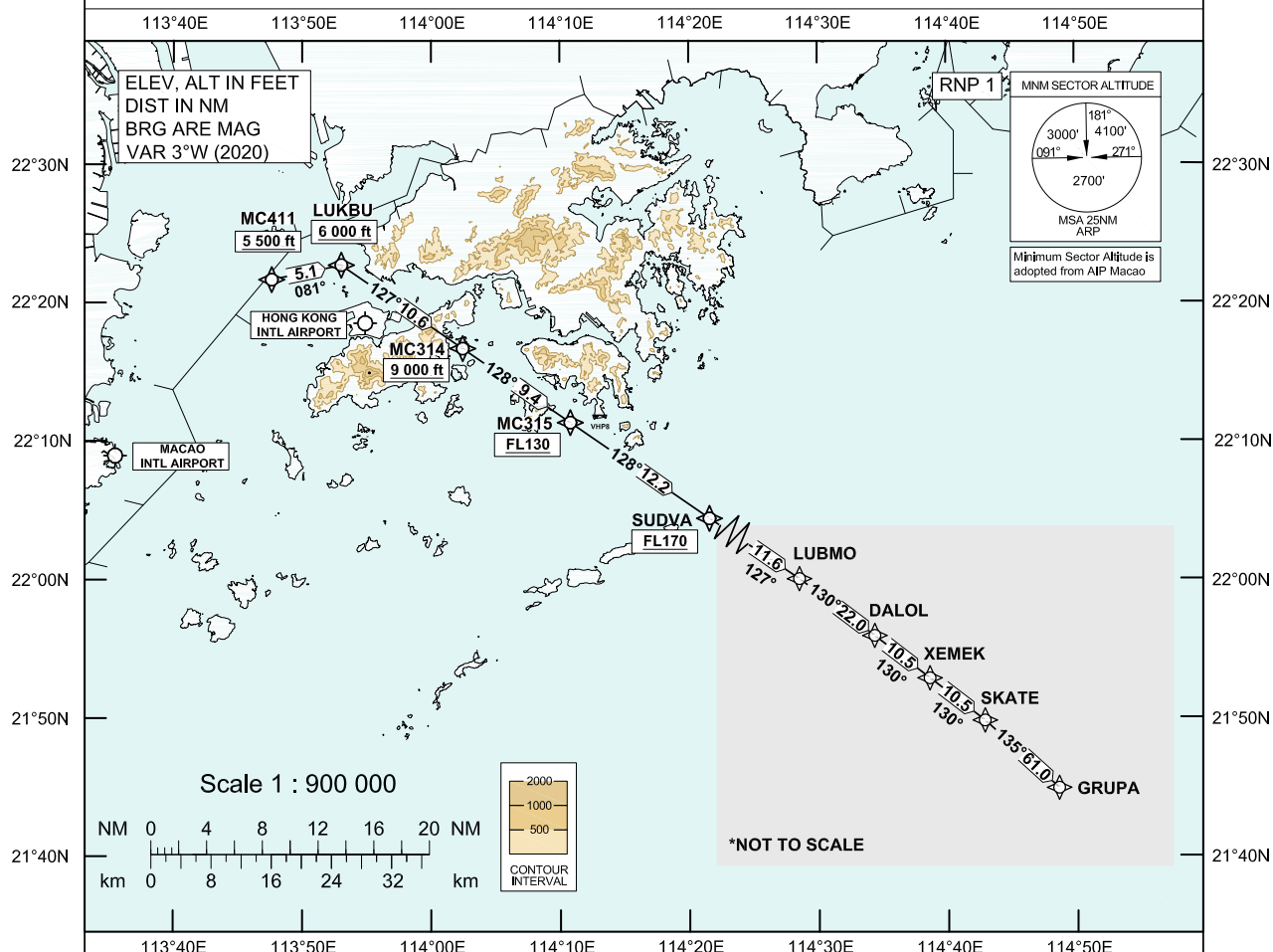


**STANDARD DEPARTURE CHART-
INSTRUMENT (SID) - ICAO**Transition Altitude 9 000 ft
HONG KONG DEPARTURE 122.0**MACAO / Intl (VMMC)
RWY 34
RNAV (GNSS) GRUPA 5U SID**

1. Aircraft shall comply with the Macao RWY 34 SID procedure as published in the AIP Macao.
2. For RNAV (GNSS) SID, aircraft must be approved by State of Registry in accordance with ICAO RNP 1 standard or equivalent. Carriage of certified GNSS receiver is mandatory.
3. Aircraft that do not have approval or whose RNP 1 capability has been degraded shall use the Conventional Procedure described below.

**GRUPA 5U SID RWY 34****RNP 1 Procedure**

(Mandate procedure available to aircraft appropriately equipped and approved)

MC411 - LUKBU - MC314 - MC315 - SUDVA - LUBMO - DALOL - XEMEK - SKATE - GRUPA

Conventional Procedure

Departures shall enter Hong Kong airspace via MC411.

From MC411, direct to LUKBU, then to MC314, MC315, SUDVA, LUBMO, DALOL, XEMEK, SKATE and GRUPA.

CLIMB REQUIREMENT

Cross MC411 at or above 5 500 ft climbing to 6 000 ft. Cross LUKBU at 6 000 ft or above.

Expect further climb when instructed by ATC.

SPEED RESTRICTION

Aircraft shall fly at 250 KIAS or less below FL 110.

CHANGE: Revised procedure: revised frequency.

FMC Database Coding Reference for Macao RNAV_(GNSS) SID

TABULAR DESCRIPTION: GRUPA 5U Runway 34

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course °M (°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft)	Speed (KIAS)	Navigation Specification
Aircraft shall comply with the Macao RWY34 SID procedure as published in the AIP Macao										
01	TF	MC411	-	-	+3.0	-	-	+5500	-250	RNP 1
02	TF	LUKBU	-	081 (078)	+3.0	5.1	-	+6000	-	RNP 1
03	TF	MC314	-	127 (124)	+3.0	10.6	-	+9000	-	RNP 1
04	TF	MC315	-	128 (125)	+3.0	9.4	-	+FL130	-	RNP 1
05	TF	SUDVA	-	128 (125)	+3.0	12.2	-	+FL170	-	RNP 1
06	TF	LUBMO	-	127 (124)	+3.0	11.6	-	-	-	RNP 1
07	TF	DALOL	-	130 (127)	+3.0	22.0	-	-	-	RNP 1
08	TF	XEMEK	-	130 (127)	+3.0	10.5	-	-	-	RNP 1
09	TF	SKATE	-	130 (127)	+3.0	10.5	-	-	-	RNP 1
10	TF	GRUPA	-	135 (132)	+3.0	61.0	-	-	-	RNP 1

WAYPOINT LIST

GRUPA 5U RWY 34		
Waypoint Identifier	Coordinates (WGS-84)	
MC411	22 21 41.20N	113 47 37.58E
LUKBU	22 22 44.12N	113 53 01.50E
MC314	22 16 42.35N	114 02 26.88E
MC315	22 11 21.09N	114 10 47.55E
SUDVA	22 04 25.14N	114 21 33.87E
LUBMO	21 57 55.24N	114 31 52.98E
DALOL	21 44 36.90N	114 50 45.34E
XEMEK	21 38 16.17N	114 59 43.04E
SKATE	21 31 54.99N	115 08 39.94E
GRUPA	20 50 44.00N	115 56 59.00E