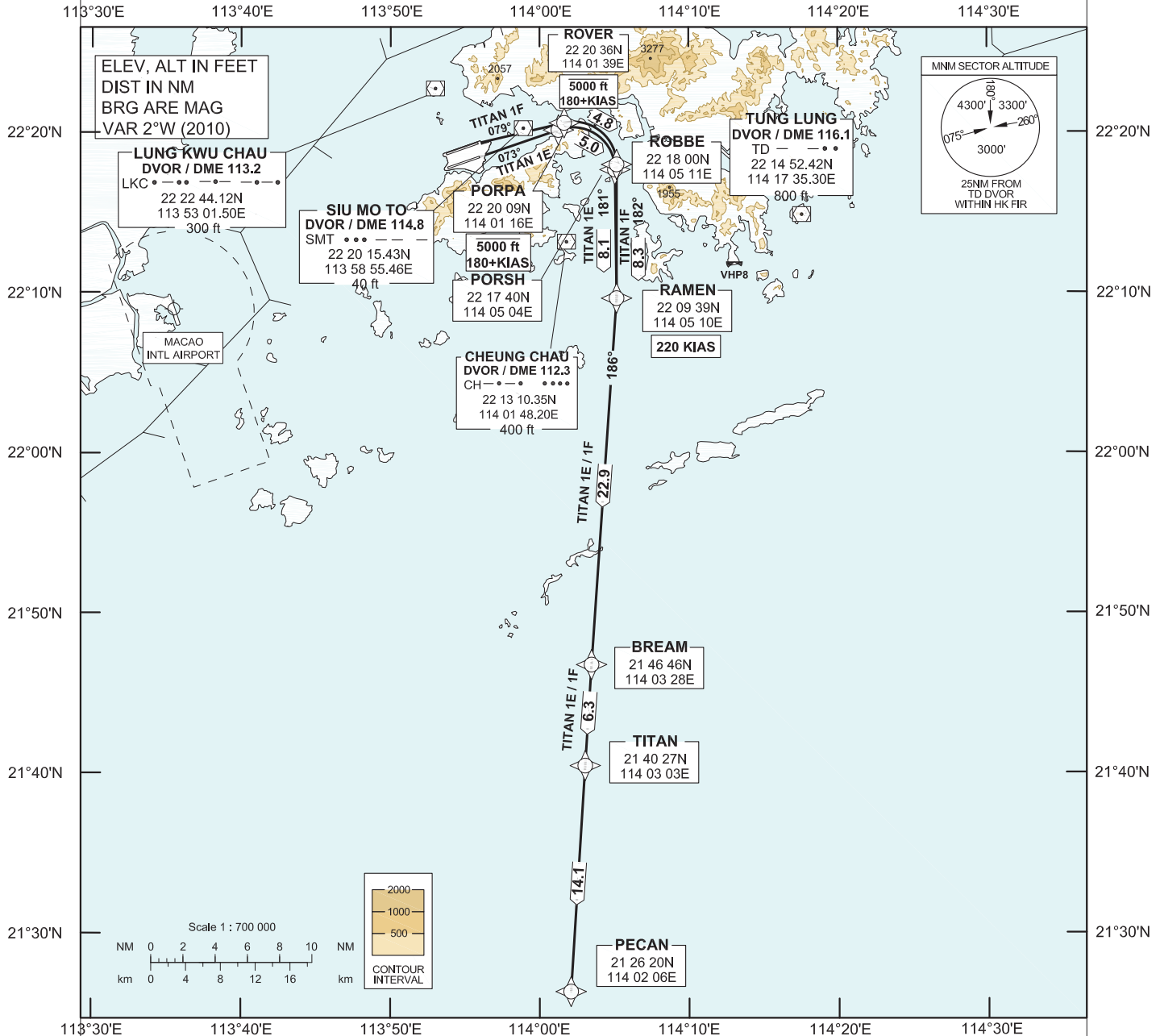


**STANDARD DEPARTURE CHART-  
INSTRUMENT (SID) - ICAO**

Transition Altitude 9 000 ft	
Hong Kong Tower South	118.4
Hong Kong Tower North	118.2
Hong Kong Departure	123.8

**HONG KONG / Intl (VHHH)  
RNAV (GNSS) TITAN 1E SID RWY 07R  
RNAV (GNSS) TITAN 1F SID RWY 07L**

1. For RNAV (GNSS) SID, aircraft must be approved by State of Registry in accordance with ICAO RNP 1 standard or equivalent (see GEN 1.5 para 3.5.2 on page GEN 1.5-2). Carriage of certified GNSS receiver is mandatory.
2. In the event that PBN performance ceases to comply with the requirements for RNP 1 after departure, pilots must notify ATC as soon as possible. ATC assistance would be provided as necessary.
3. **Radius-to-fix (RF) leg is required.** Aircraft shall have RF capability as stipulated in the Aircraft Flight Manual or its FMS manual. Aircraft that do not have RF capability shall use RNAV (GNSS) PECAN 1A / RNAV (GNSS) PECAN 1C as detailed in AD 2-97 PECAN AC.
4. (DER) - Departure End of Runway.
5. **Noise Mitigating SID for use between 1501 - 2300 UTC (see VHHH AD 2.21 para 2.4 on page AD 2-22).**
6. Aircraft with RF capability are encouraged to fly the procedure.



**TITAN 1E SID RWY 07R**

**RNP 1 Procedure**  
PORPA[A5000-,K180+;R] - PORSH[R,2.6485,221738.37N  
1140212.21E] - RAMEN[K220;R] - BREAM - TITAN - PECAN

**CLIMB REQUIREMENT**

Initial climb to 5 000 ft. Expect further climb when instructed by ATC. Cross PORPA at 5 000 ft or below.

**TERRAIN CLEARANCE**

Minimum climb gradient of 4.9% (298 ft/NM) until leaving 1 400 ft is required.

**SPEED RESTRICTION**

Speed restriction of 180 KIAS or greater at PORPA and 220 KIAS until RAMEN.

**TITAN 1F SID RWY 07L**

**RNP 1 Procedure**  
RWY07L(DER)[R] - ROVER[A5000-,K180+;R] -  
ROBBE[R,2.6577,221759.91N 1140218.84E] -  
RAMEN[K220;R] - BREAM - TITAN - PECAN

**CLIMB REQUIREMENT**

Initial climb to 5 000 ft. Expect further climb when instructed by ATC. Cross ROVER at 5 000 ft or below.

**TERRAIN CLEARANCE**

Minimum climb gradient of 4.1% (250 ft/NM) until leaving 1 400 ft is required.

**SPEED RESTRICTION**

Speed restriction of 180 KIAS or greater at ROVER and 220 KIAS until RAMEN.

CHANGE: Update of text.

**FMC Database Coding Reference for Hong Kong RNAV<sub>(GNSS)</sub> SIDs**

**Designator: TITAN 1E Runway 07R (Noise Mitigating Procedure)**

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course/Track (°M)	Magnetic Variation	Distance (NM)	Turn Dir	Altitude (ft)	Speed (KIAS)	Navigation Specification
01	CF	PORPA	-	073	+2.0	5.0	R	5000-	180+	RNP 1
02	RF Centre: VH991 r = 2.6485NM	PORSH	-	-	+2.0	5.0	R	-	-	RNP 1
03	TF	RAMEN	-	181	+2.0	8.1	R	-	220	RNP 1
04	TF	BREAM	-	186	+2.0	22.9	-	-	-	RNP 1
05	TF	TITAN	-	186	+2.0	6.3	-	-	-	RNP 1
06	TF	PECAN	-	186	+2.0	14.1	-	-	-	RNP 1

**Designator: TITAN 1F Runway 07L (Noise Mitigating Procedure)**

Serial Number	Path Descriptor	Waypoint Identifier	Fly-over	Course/Track (°M)	Magnetic Variation	Distance (NM)	Turn Dir	Altitude (ft)	Speed (KIAS)	Navigation Specification
01	CF	RW07L (DER)	Y	073	+2.0	-	-	-	-	RNP 1
02	FA	RW07L (DER)	Y	073	+2.0	-	R	430+	-	RNP 1
03	CF	ROVER	-	079	+2.0	5.3	R	5000-	180+	RNP 1
04	RF Centre: VH992 r = 2.6577NM	ROBBE	-	-	+2.0	4.8	R	-	-	RNP 1
05	TF	RAMEN	-	182	+2.0	8.3	R	-	220	RNP 1
06	TF	BREAM	-	186	+2.0	22.9	-	-	-	RNP 1
07	TF	TITAN	-	186	+2.0	6.3	-	-	-	RNP 1
08	TF	PECAN	-	186	+2.0	14.1	-	-	-	RNP 1

**Waypoint and Coordinates**

Waypoint Identifier	Coordinates (WGS-84)
RWY 07L (DER)	22 19 21.08N 113 56 02.35E
PORPA	22 20 09.10N 114 01 16.30E
PORSH	22 17 40.38N 114 05 03.56E
ROVER	22 20 35.58N 114 01 39.12E
ROBBE	22 17 59.70N 114 05 10.78E
RAMEN	22 09 39.22N 114 05 09.89E
BREAM	21 46 46.00N 114 03 28.00E
TITAN	21 40 27.40N 114 03 02.52E
PECAN	21 26 20.19N 114 02 05.64E
RF Arc Centre Identifier	Coordinates (WGS-84)
VH991	22 17 38.37N 114 02 12.21E
VH992	22 17 59.91N 114 02 18.84E