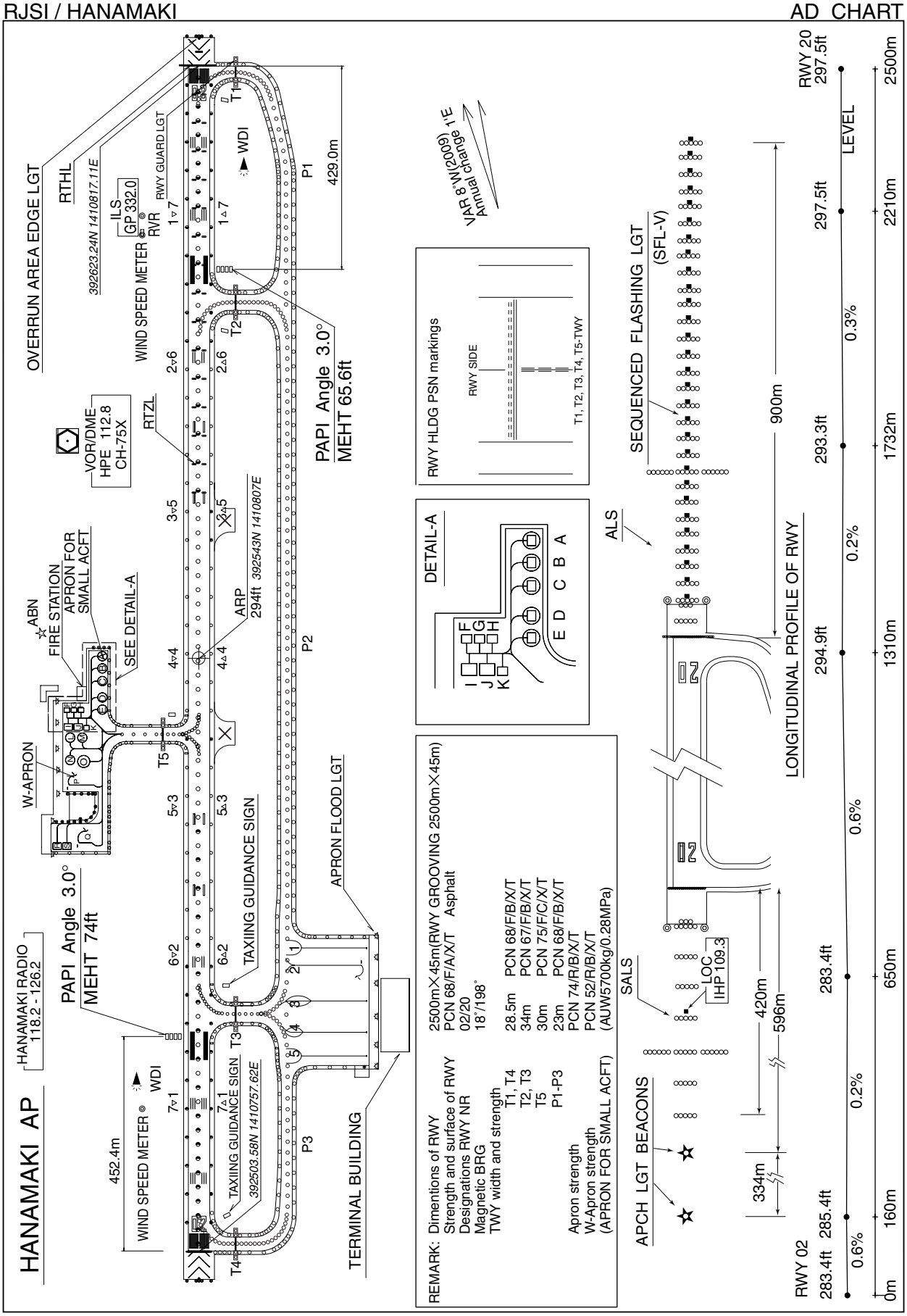
RJSI / HANAMAKI AD CHART

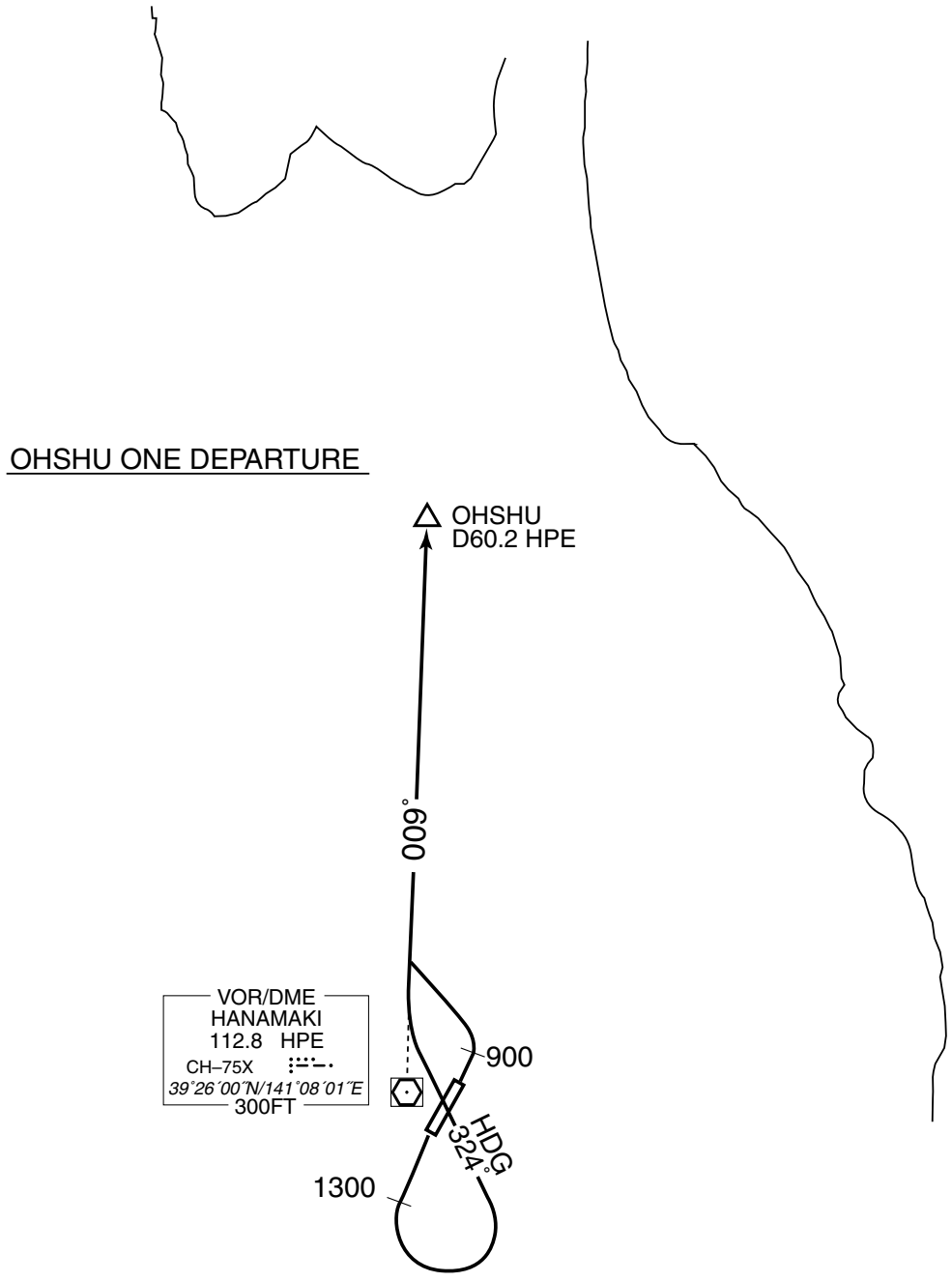


STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI ➡ SID

OHSHU ONE DEPARTURE

RWY 02 : Climb RWY HDG to 900FT, turn left...
RWY 20 : Climb RWY HDG to 1300FT, turn left HDG 324˚...
...to intercept and proceed via HPE R009 to OHSHU.



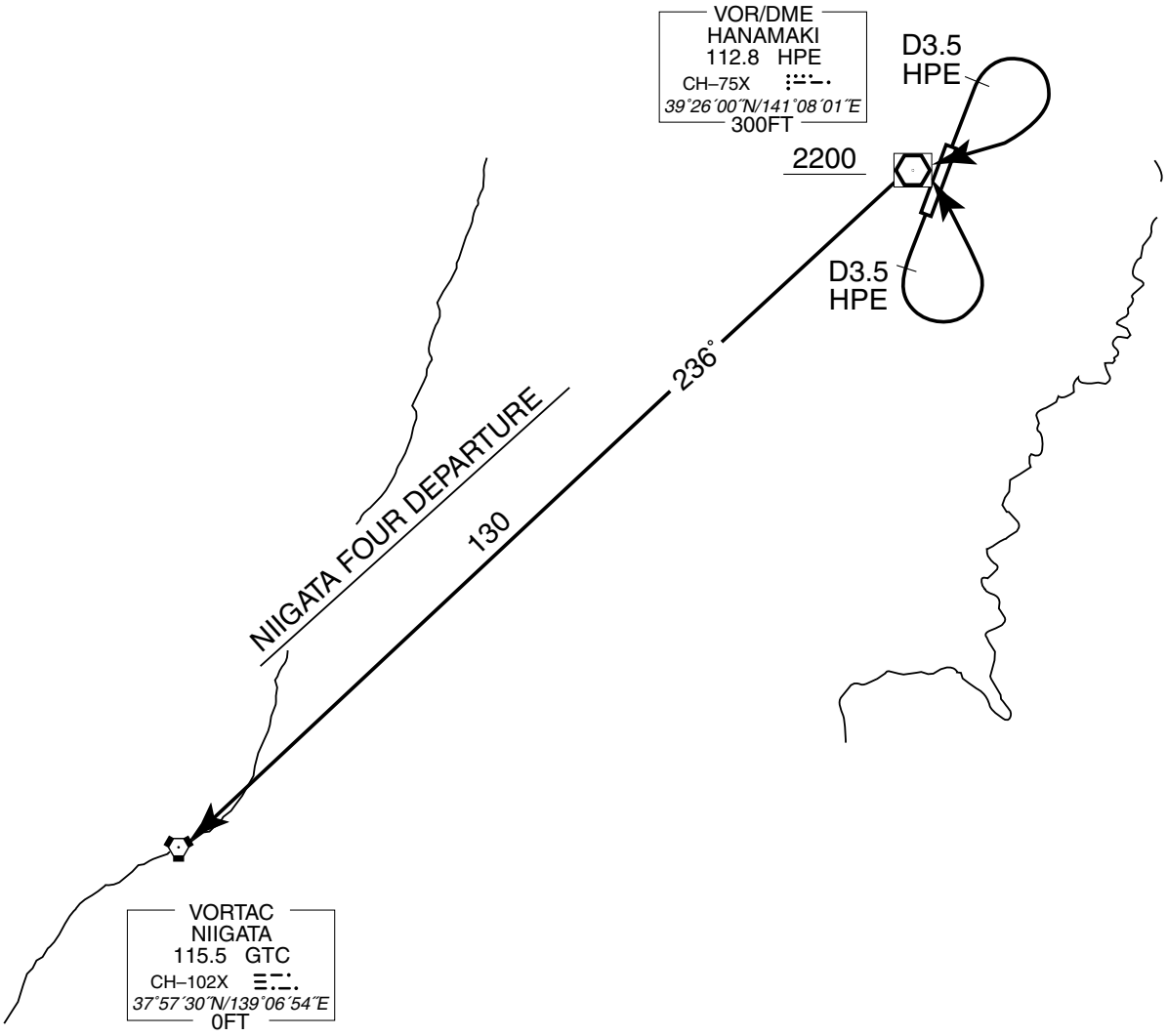
STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI SID

NIIGATA FOUR DEPARTURE

RWY 02 : Climb RWY HDG to HPE 3.5 DME, turn right...
RWY 20 : Climb RWY HDG to HPE 3.5 DME, turn left...
...proceed to HPE VOR/DME, via HPE R236 to GTC VORTAC.
Cross HPE VOR/DME at or above 2200 FT.

Note RWY02 : 4.5% climb gradient required up to 2400FT.
OBST ALT 1641FT located at 4.1NM 091˚ FM end of RWY02.
RWY20 : 3.9% climb gradient required up to 1100FT.
OBST ALT 722FT located at 2.8NM 166˚ FM end of RWY20.



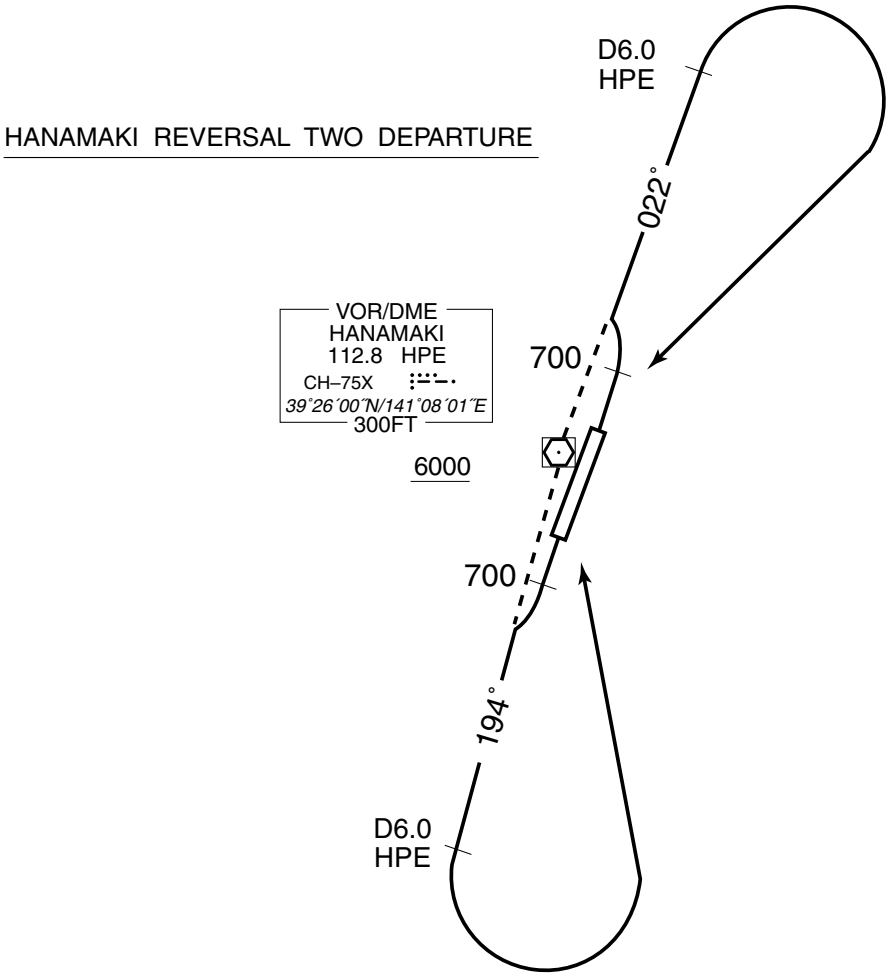
STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI SID

HANAMAKI REVERSAL TWO DEPARTURE

RWY 02 : Climb RWY HDG to 700FT, via HPE R022 to 6.0 DME, turn right...
RWY 20 : Climb RWY HDG to 700FT, via HPE R194 to 6.0 DME, turn left...
...proceed to HPE VOR/DME.
Cross HPE VOR/DME at or above 6000FT.

Note RWY02 : 5.0% climb gradient required up to 3200FT.
OBST ALT 2691FT located at 9.1NM 058˚ FM end of RWY02.

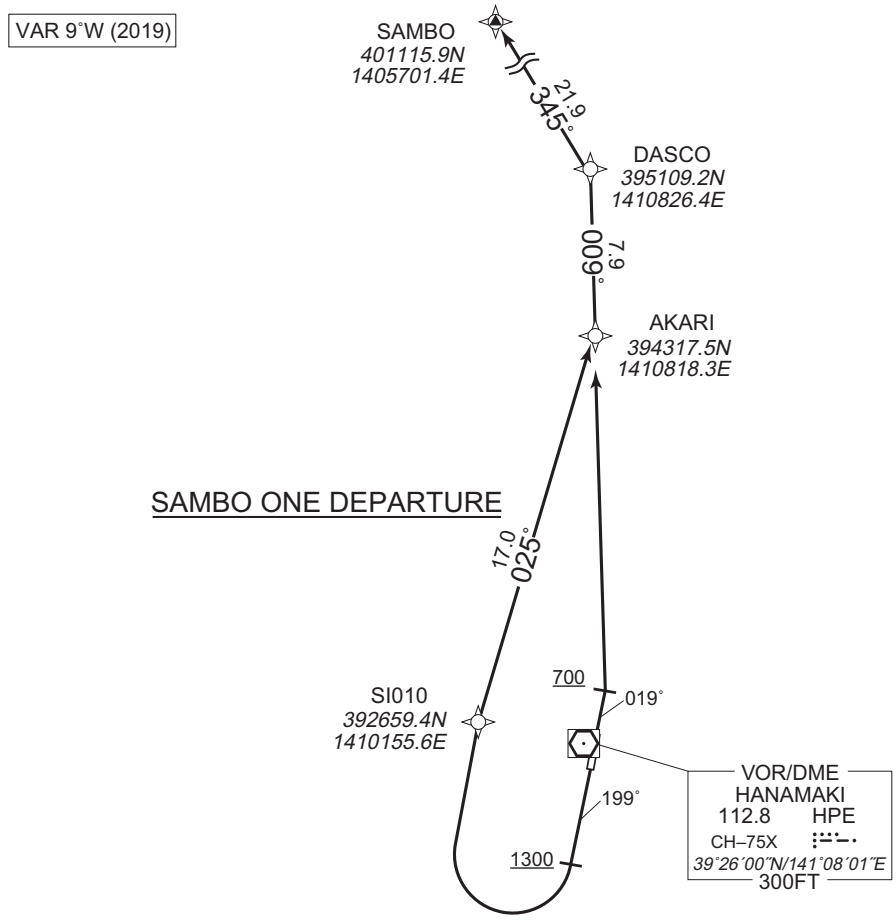


STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI — RNAV SID

SAMBO ONE DEPARTURE	Basic RNP1

Note GNSS required.



SAMBO ONE DEPARTURE

RWY02：Climb on HDG 019° at or above 700FT, direct to AKARI, to DASCO to SAMBO.

RWY20：Climb on HDG 199° at or above 1300FT, turn right direct to SI010, to AKARI, to DASCO to SAMBO.

Note RWY02: 4.0% climb gradient required up to 700FT.
OBST ALT 318FT located at 0.2NM 061° FM end of RWY02.

RWY20: 4.0% climb gradient required up to 2700FT.
OBST ALT 3117FT located at 10.7NM 350° FM end of RWY20.

RWY02

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	–	–	019 (010.7)	-8.6	–	–	+700	–	–	Basic RNP1
002	DF	AKARI	–	–	-8.6	–	–	–	–	–	Basic RNP1
003	TF	DASCO	–	009 (000.8)	-8.6	7.9	–	–	–	–	Basic RNP1
004	TF	SAMBO	–	345 (336.6)	-8.6	21.9	–	–	–	–	Basic RNP1

RWY20

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	–	–	199 (190.7)	-8.6	–	–	+1300	–	–	Basic RNP1
002	DF	SI010	–	–	-8.6	–	R	–	–	–	Basic RNP1
003	TF	AKARI	–	025 (016.7)	-8.6	17.0	–	–	–	–	Basic RNP1
004	TF	DASCO	–	009 (000.8)	-8.6	7.9	–	–	–	–	Basic RNP1
005	TF	SAMBO	–	345 (336.6)	-8.6	21.9	–	–	–	–	Basic RNP1

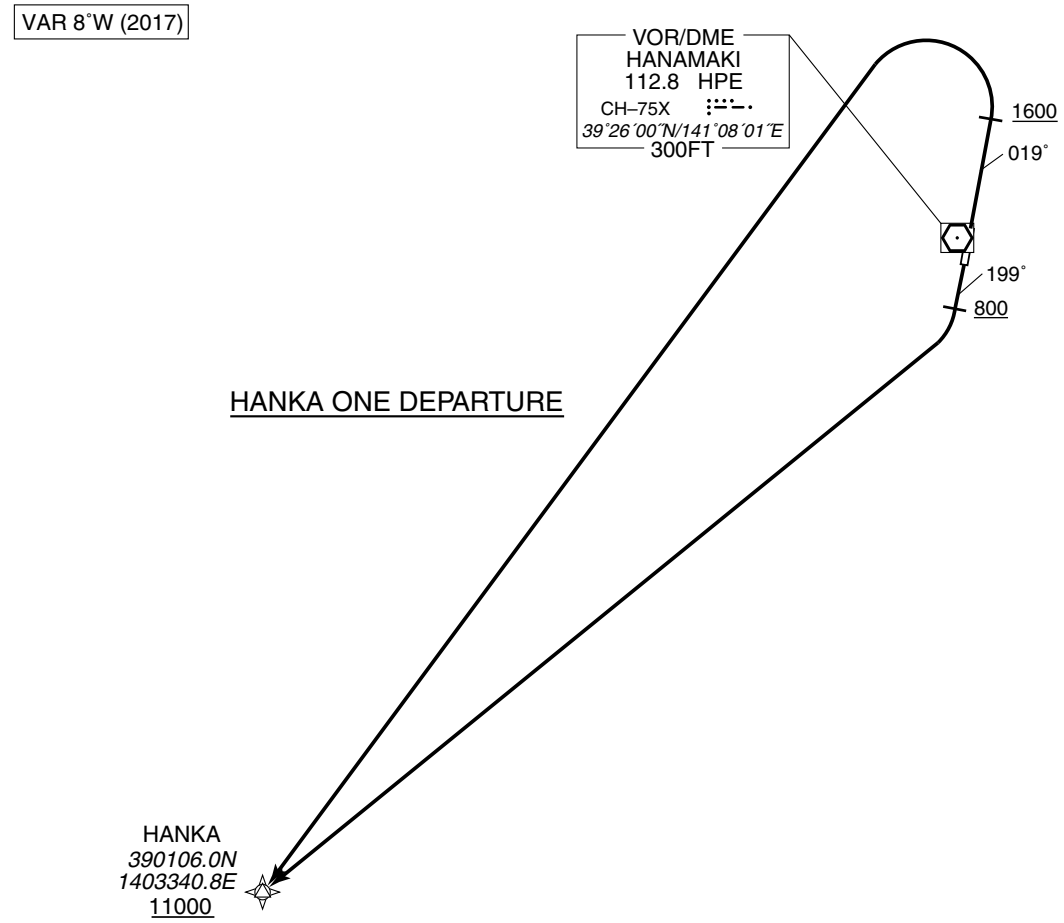
CHANGE : New PROC

STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI ➡ RNAV SID

HANKA ONE DEPARTURE	Basic RNP1

Note GNSS required



HANKA ONE DEPARTURE

RWY02 : Climb on HDG 019˚ at or above 1600FT, turn left direct to HANKA, at or above 11000FT.
RWY20 : Climb on HDG 199˚ at or above 800FT, turn right direct to HANKA, at or above 11000FT.
Note RWY02: 5.0% climb gradient required up to 3600FT.
OBST ALT 1936FT located at 5.5NM 340˚ FM end of RWY02.
OBST ALT 3018FT located at 8.2NM 310˚ FM end of RWY02.
RWY20: 5.0% climb gradient required up to 5400FT.
OBST ALT 4593FT located at 18.2NM 227˚ FM end of RWY20.
OBST ALT 5151FT located at 20.8NM 231˚ FM end of RWY20.

RWY02

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course ˚M(˚T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	–	–	019 (010.7)	-8.4	–	–	+1600	–	–	Basic RNP1
002	DF	HANKA	–	–	-8.4	–	L	+11000	–	–	Basic RNP1

RWY20

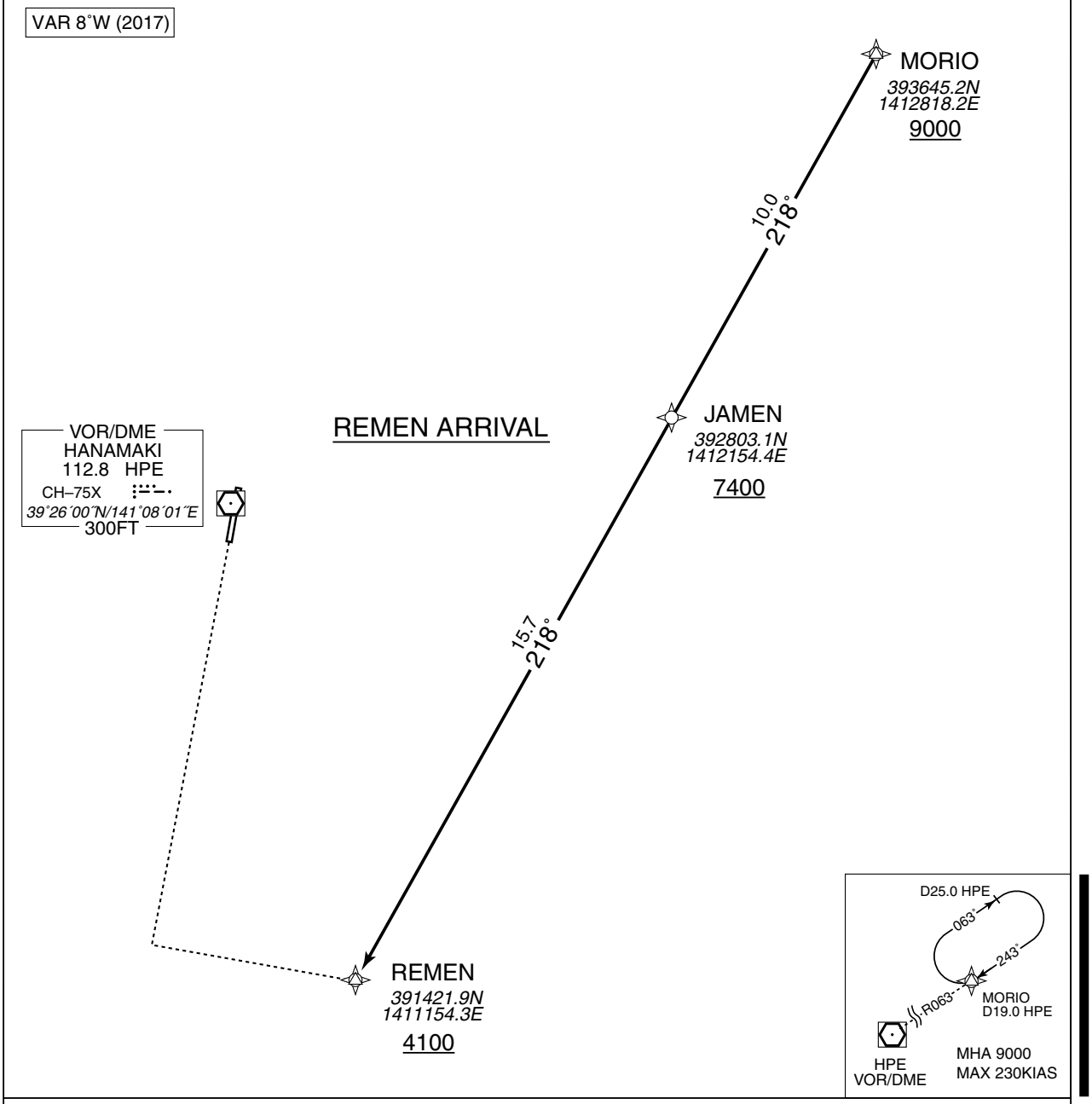
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course ˚M(˚T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	VA	–	–	199 (190.7)	-8.4	–	–	+800	–	–	Basic RNP1
002	DF	HANKA	–	–	-8.4	–	R	+11000	–	–	Basic RNP1

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI — RNAV STAR RWY02

REMEN ARRIVAL | Basic RNP1

Note GNSS required



REMEN ARRIVAL

From MORIO at or above 9000FT, to JAMEN at or above 7400FT, to REMEN at or above 4100FT.

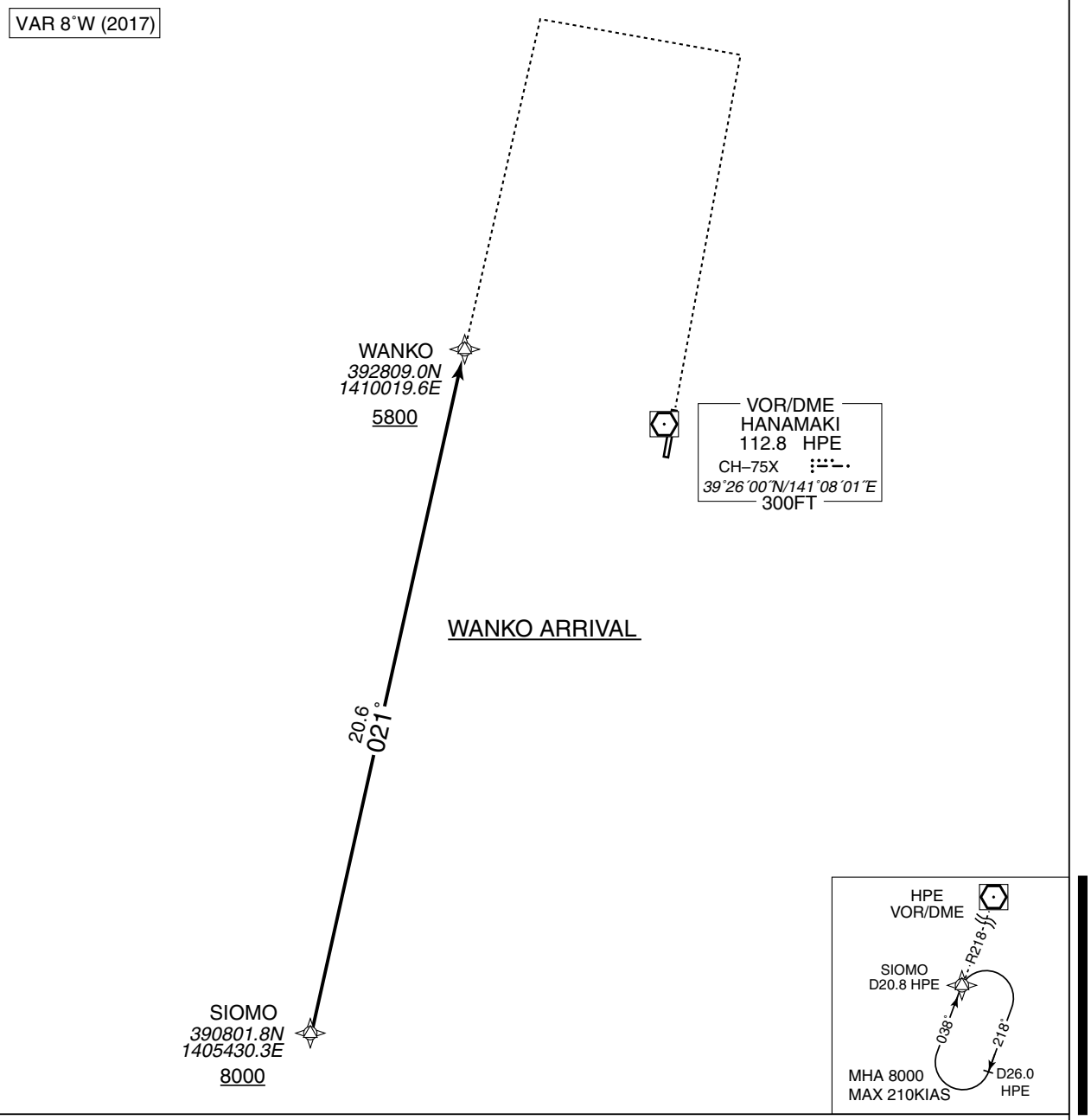
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	MORIO	–	–	-8.4	–	–	+9000	–	–	Basic RNP1
002	TF	JAMEN	–	218 (209.6)	-8.4	10.0	–	+7400	–	–	Basic RNP1
003	TF	REMEN	–	218 (209.5)	-8.4	15.7	–	+4100	–	–	Basic RNP1

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI — RNAV STAR RWY20

WANKO ARRIVAL — Basic RNP1

Note GNSS required



WANKO ARRIVAL

From SIOMO at or above 8000FT, to WANKO at or above 5800FT.

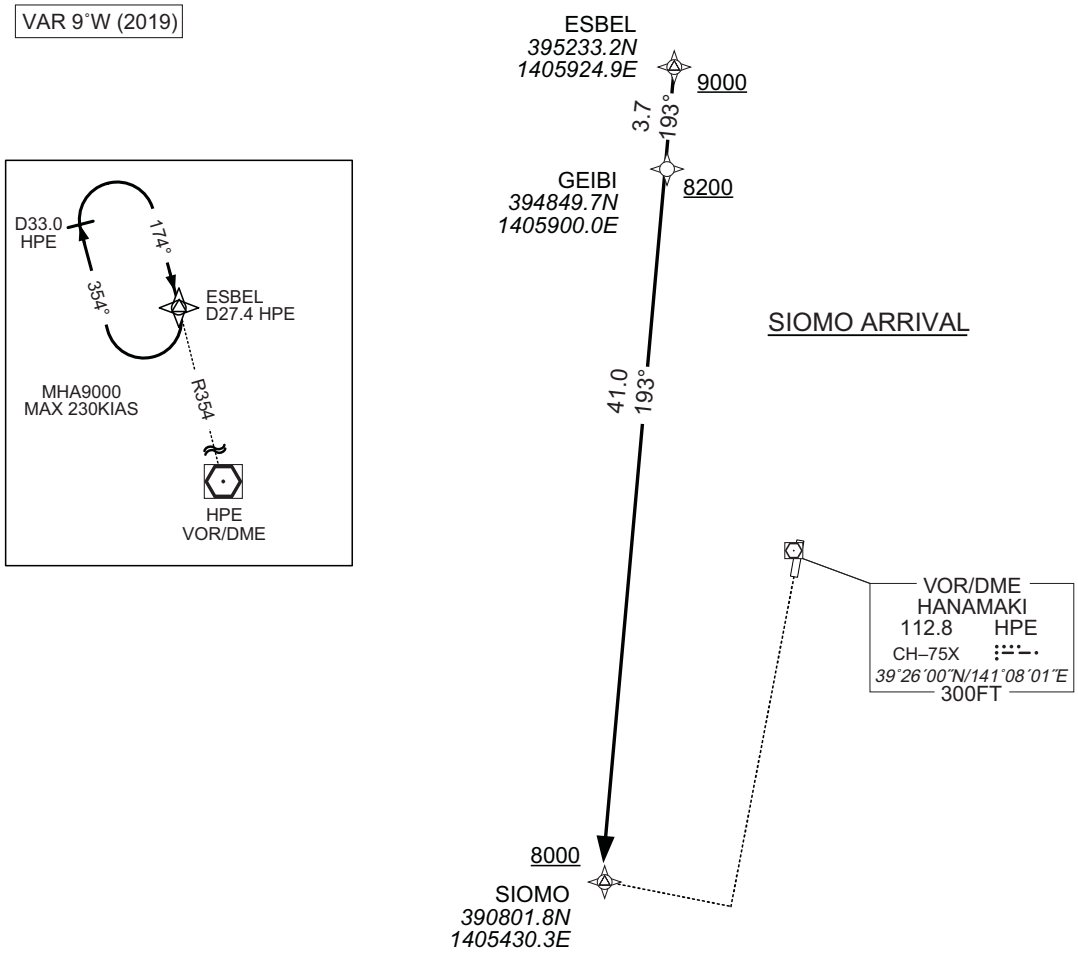
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	SIOMO	–	–	-8.4	–	–	+8000	–	–	Basic RNP1
002	TF	WANKO	–	021 (012.6)	-8.4	20.6	–	+5800	–	–	Basic RNP1

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI — RNAV STAR RWY02

SIOMO ARRIVAL	Basic RNP1

Note GNSS required.



SIOMO ARRIVAL

From ESBEL at or above 9000FT, to GEIBI at or above 8200FT, to SIOMO at or above 8000FT.

CHANGE : New PROC

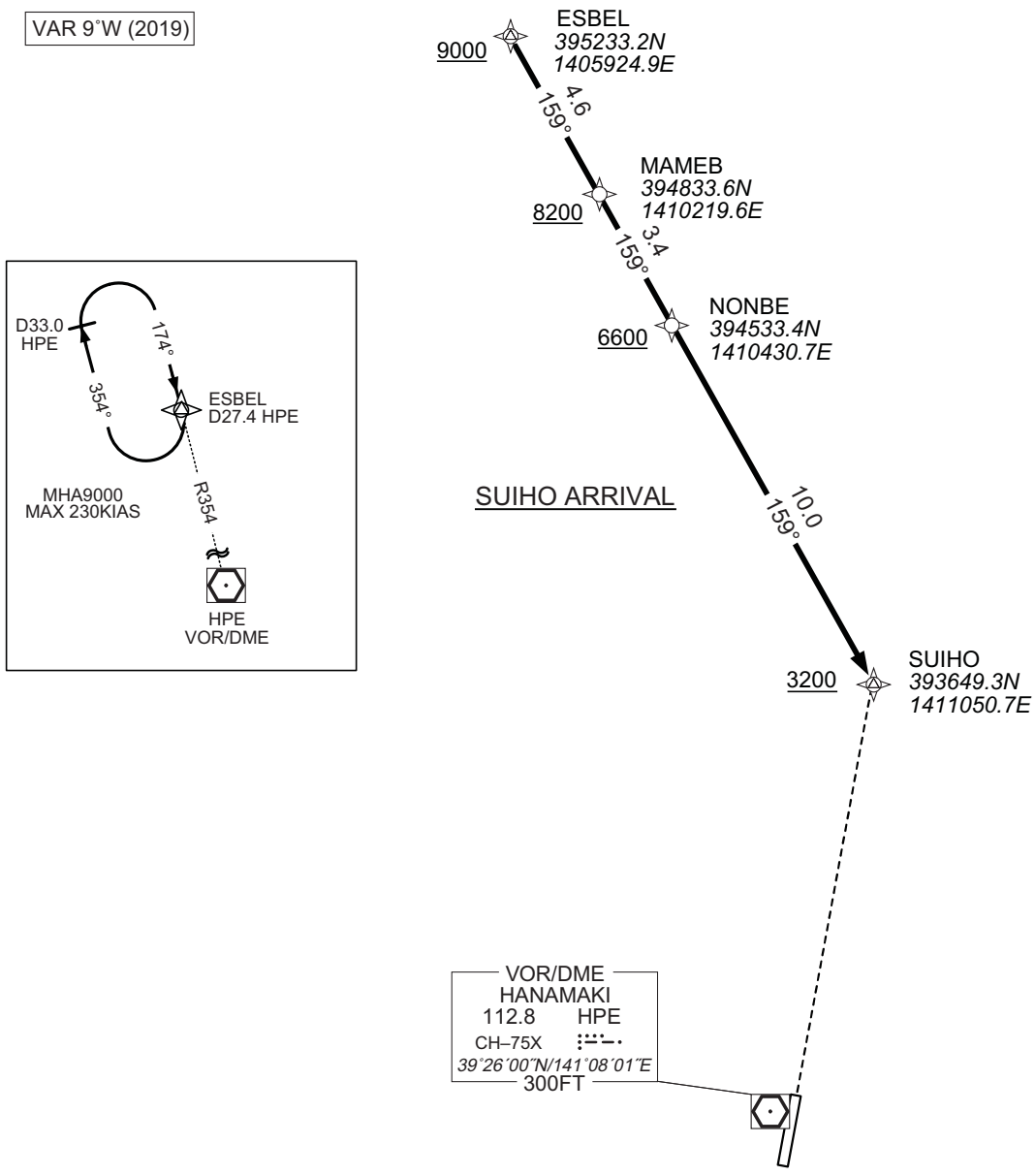
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ESBEL	—	—	-8.6	—	—	+9000	—	—	Basic RNP1
002	TF	GEIBI	—	193 (184.9)	-8.6	3.7	—	+8200	—	—	Basic RNP1
003	TF	SIOMO	—	193 (184.9)	-8.6	41.0	—	+8000	—	—	Basic RNP1

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI — RNAV STAR RWY20

SUIHO ARRIVAL	Basic RNP1

Note GNSS required.



SUIHO ARRIVAL

From ESBEL at or above 9000FT, to MAMEB at or above 8200FT, to NONBE at or above 6600FT, to SUIHO at or above 3200FT.

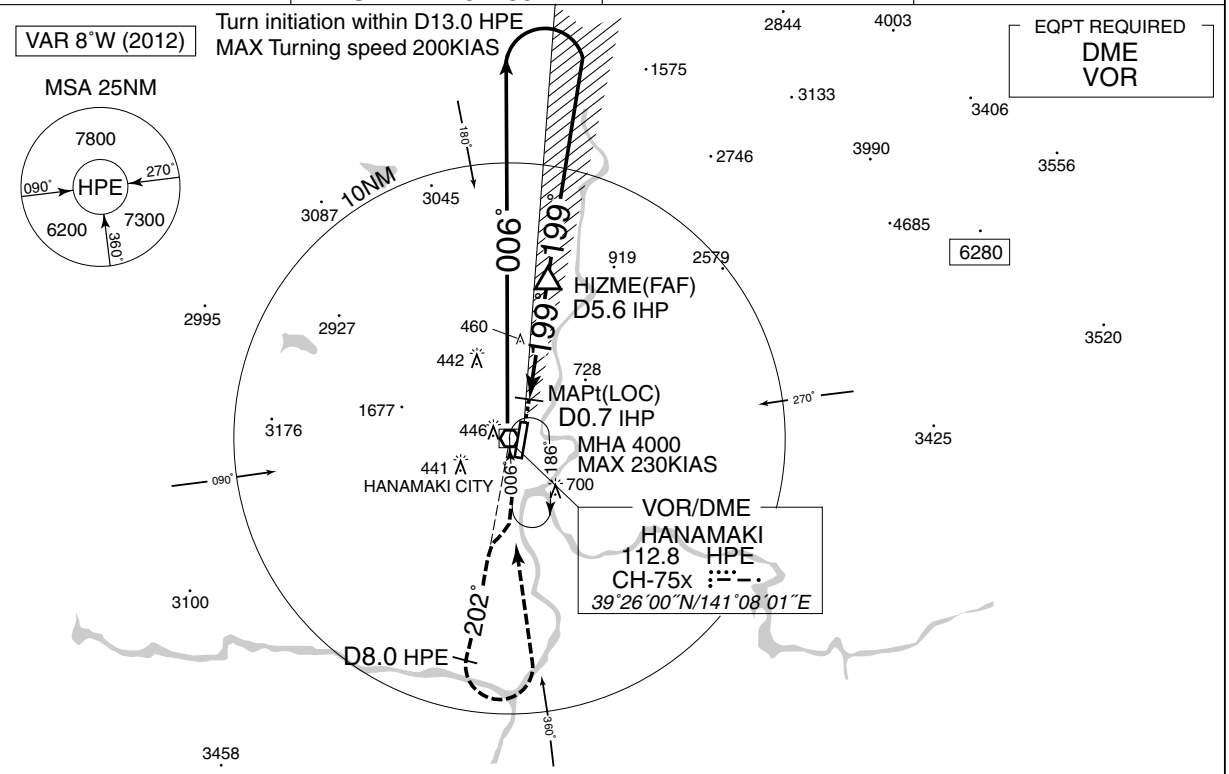
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ESBEL	—	—	-8.6	—	—	+9000	—	—	Basic RNP1
002	TF	MAMEB	—	159 (150.7)	-8.6	4.6	—	+8200	—	—	Basic RNP1
003	TF	NONBE	—	159 (150.8)	-8.6	3.4	—	+6600	—	—	Basic RNP1
004	TF	SUIHO	—	159 (150.8)	-8.6	10.0	—	+3200	—	—	Basic RNP1

CHANGE : New PROC

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI — ILS Z or LOC Z RWY20

SAPPORO CONTROL	ILS – LOC	HANAMAKI RADIO	NO RADAR
124.5 – 303.8 120.575 – 277.1	109.3 IHP ILS – GP 332.0 ILS – DME CH-30X	118.2 – 126.2	



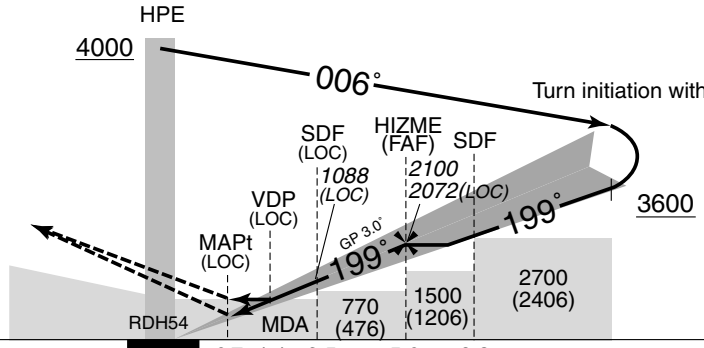
HIZME(FAF) : *393142.42N/1410935.33E*

NM to IHP	MAPt	2	3	4	5	FAF
ALT (3.0˚ APCH Path)	–	929	1247	1566	1884	2072

MISSED APPROACH

Climb via HPE R202 to HPE 8.0DME, turn left, direct to HPE VOR/DME and hold at 4000FT. Contact HANAMAKI RADIO.

Timing not authorized for defining the MAPt.



DME to IHP	0.2	0.7	1.1	2.5	5.6	9.3
NM to THR	0	0.5	0.9	2.3	5.4	9.1

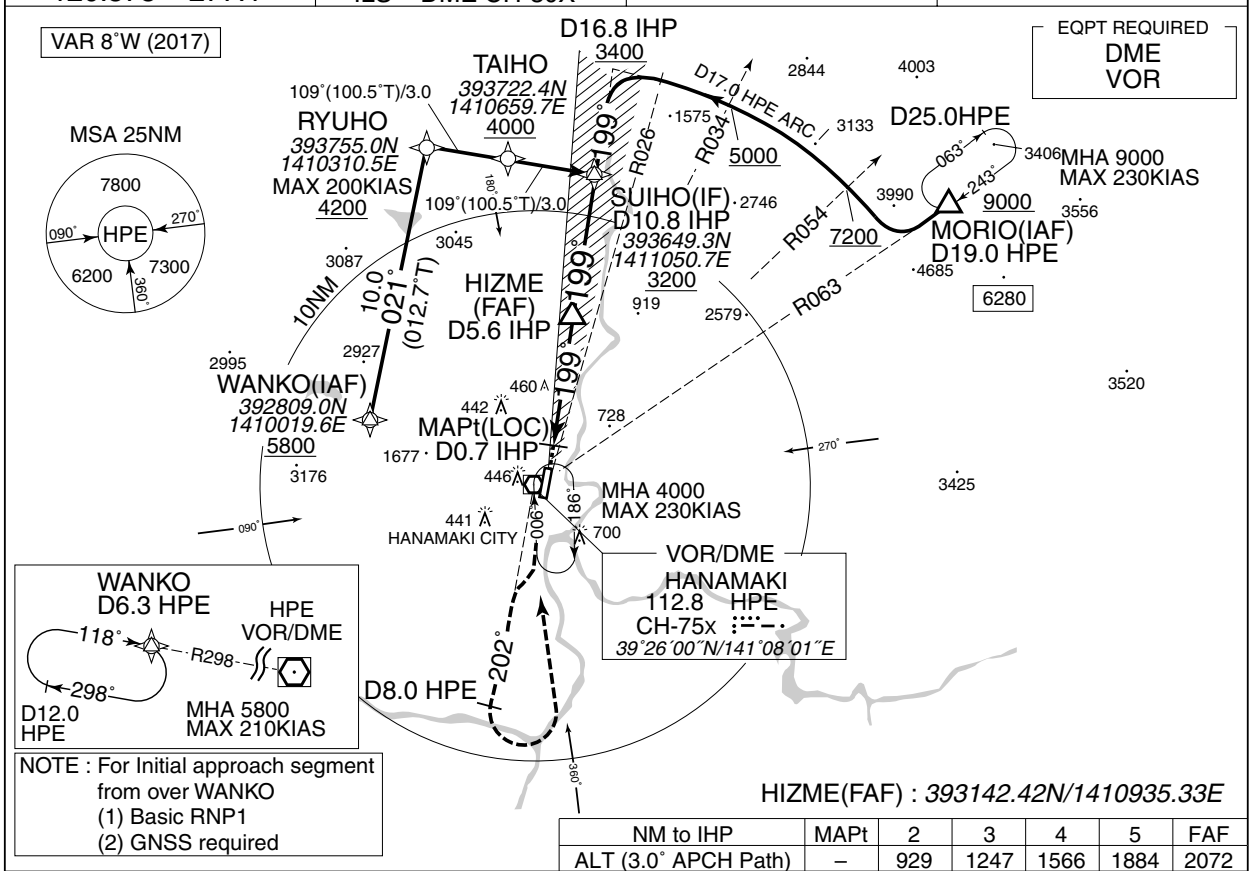
MINIMA — THR elev. 298 — AD elev. 294

CAT	CAT I		LOC		CIRCLING	
	DA(H)	RVR/ CMV	MDA(H)	RVR/ CMV	MDA(H)	VIS
A	498 (200)	550	640 (346)	900	760 (466)	1600
B				1000	860 (566)	
C					1000 (706)	2400
D				1400		3200

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI — ILS Y or LOC Y RWY20

SAPPORO CONTROL	ILS – LOC	HANAMAKI RADIO	NO RADAR
124.5 – 303.8 120.575 – 277.1	109.3 IHP ILS – GP 332.0 ILS – DME CH-30X	118.2 – 126.2	



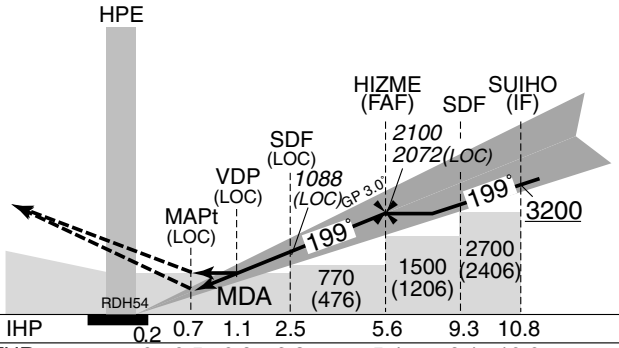
NOTE : For Initial approach segment from over WANKO
(1) Basic RNP1
(2) GNSS required

NM to IHP	MAPt	2	3	4	5	FAF
ALT (3.0° APCH Path)	–	929	1247	1566	1884	2072

MISSED APPROACH

Climb via HPE R202 to HPE 8.0DME, turn left, direct to HPE VOR/DME and hold at 4000FT.
Contact HANAMAKI RADIO.

Timing not authorized for defining the MAPt.



DME to IHP	0.2	0.7	1.1	2.5	5.6	9.3	10.8
NM to THR	0	0.5	0.9	2.3	5.4	9.1	10.6

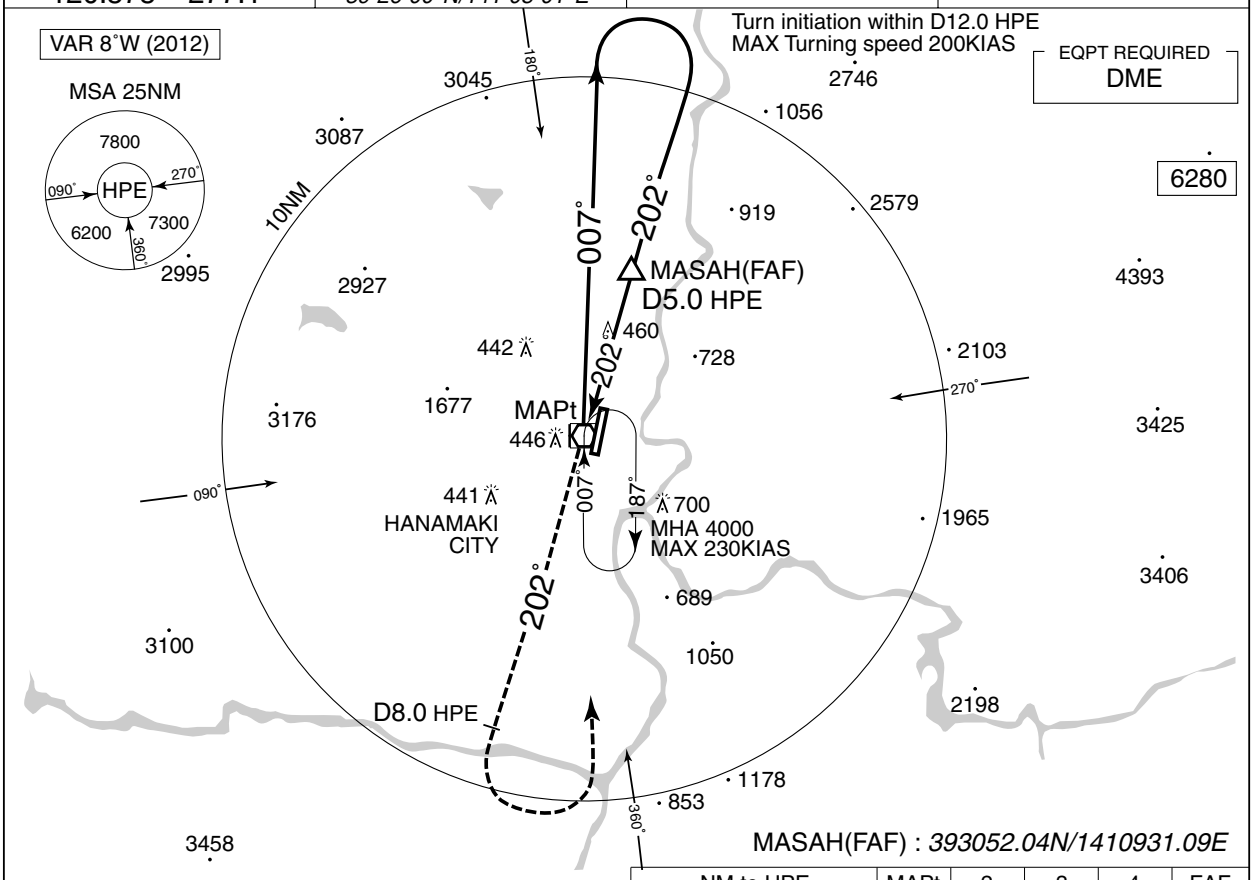
MINIMA — THR elev. 298 — AD elev. 294

CAT	CAT I		LOC		CIRCLING	
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)	VIS
A	498 (200)	550	640 (346)	900	760 (466)	1600
B				1000	860 (566)	
C					1000 (706)	2400
D				1400		3200

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI VOR RWY20

SAPPORO CONTROL	HANAMAKI VOR/DME	HANAMAKI RADIO	NO RADAR
124.5 – 303.8 120.575 – 277.1	112.8 HPE CH–75X *39°26′00″N/141°08′01″E*	118.2 – 126.2	



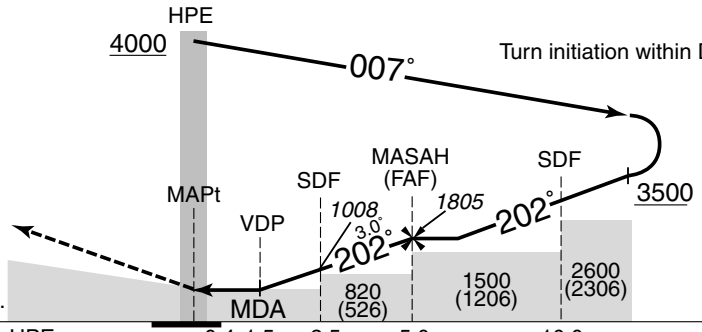
NM to HPE	MAPt	2	3	4	FAF
ALT (3.0° APCH Path)	–	849	1168	1486	1805

MISSED APPROACH

Climb via HPE R202 to HPE 8.0DME, turn left, direct to HPE VOR/DME and hold at 4000FT.

Contact HANAMAKI RADIO.

Timing not authorized for defining the MAPt.



DME to HPE	0.4	1.5	2.5	5.0	10.0
NM to THR	0	1.1	2.1	4.6	9.6

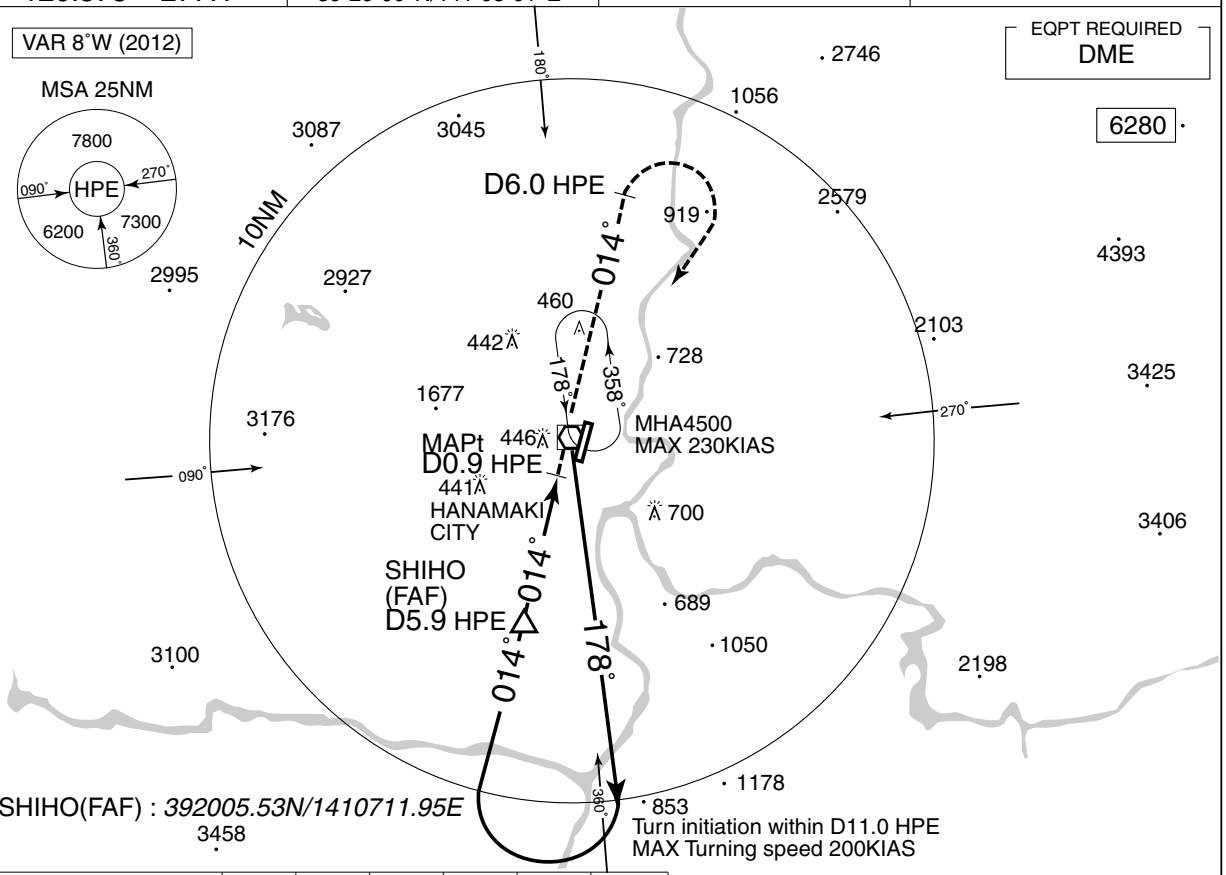
MINIMA THR elev. 298 AD elev. 294

CAT			CIRCLING	
	MDA(H)	RVR/ CMV	MDA(H)	VIS
A	690 (396)	900	760 (466)	1600
B		1000	860 (566)	
C			1000 (706)	2400
D		1400		3200

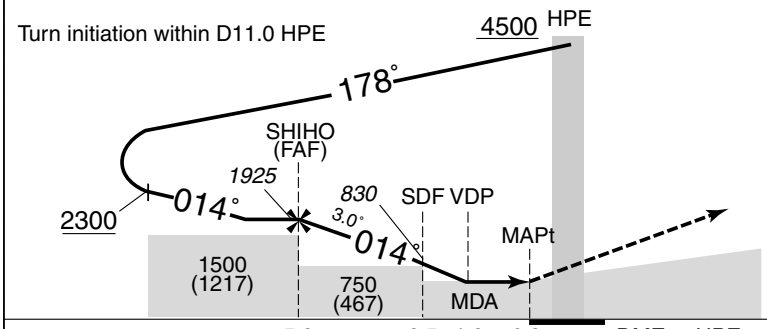
INSTRUMENT APPROACH CHART

RJSI / HANAMAKI VOR RWY02

SAPPORO CONTROL	HANAMAKI VOR/DME	HANAMAKI RADIO	NO RADAR
124.5 – 303.8 120.575 – 277.1	112.8 HPE CH–75X *39°26′00″N/141°08′01″E*	118.2 – 126.2	



NM to HPE	FAF	5	4	3	2	MAPt
ALT (3.0° APCH Path)	1925	1626	1308	989	671	–



MISSED APPROACH

Climb via HPE R014 to HPE 6.0DME, turn right, proceed to HPE VOR/DME and hold at 4500FT. Contact HANAMAKI RADIO.

Timing not authorized for defining the MAPt.

5.9	2.5	1.9	0.9	DME to HPE
5.0	1.6	1.0	0	NM to THR

Missed APCH climb gradient MNM 3.6%

MINIMA THR elev. 283 AD elev. 294

CAT			CIRCLING	
	MDA(H)	CMV	MDA(H)	VIS
A	640 (357)	1200	760 (466)	1600
B		1300	860 (566)	
C		1400	1000 (706)	2400
D	650 (367)	1600		3200

MINIMA with Missed APCH climb gradient of 2.5% are not established.

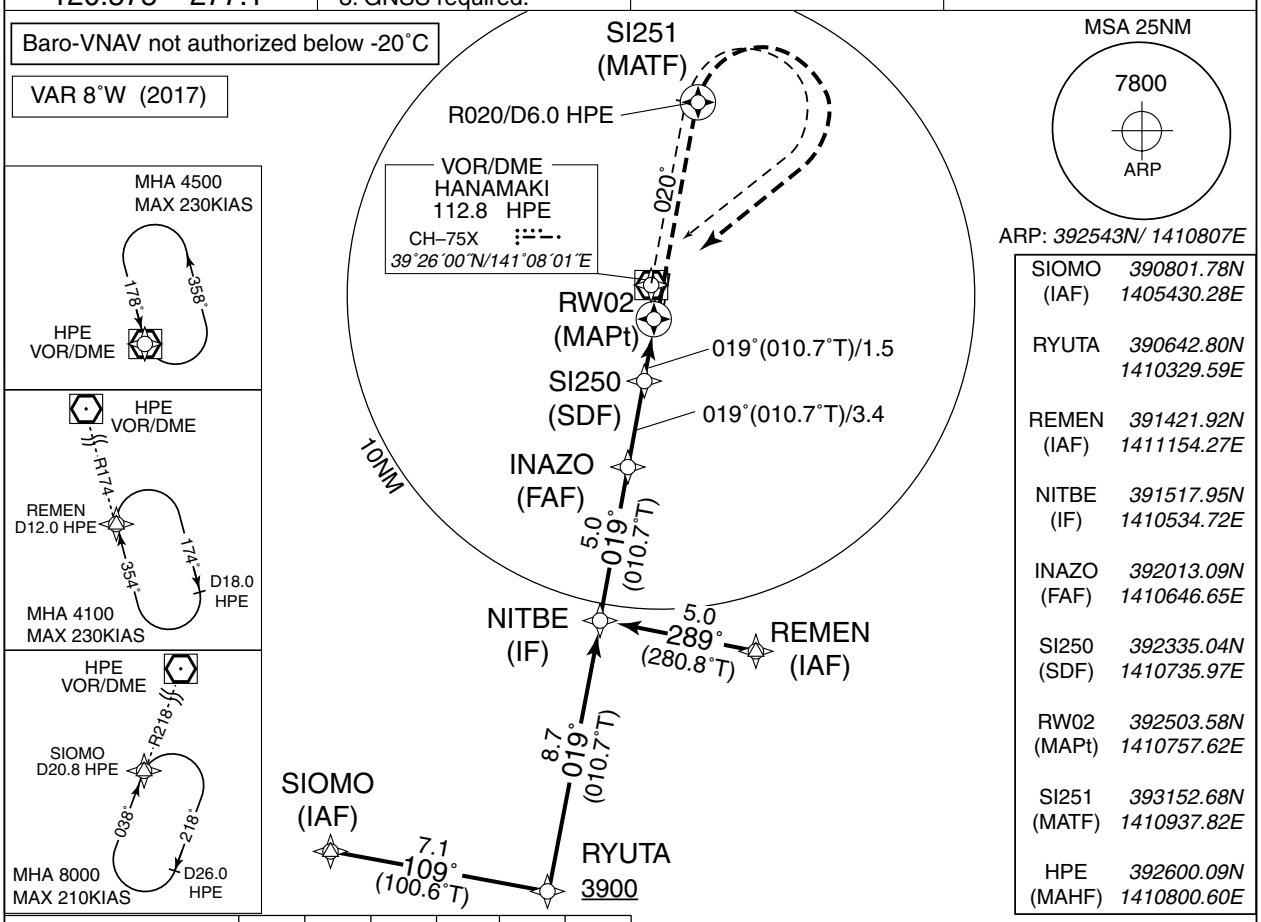
INSTRUMENT APPROACH CHART

RJSI / HANAMAKI ➡ RNAV(GNSS) RWY02

SAPPORO CONTROL	1 .DME/DME RNP0.3 not authorized. 2. RNP0.3 required. 3. GNSS required.	HANAMAKI RADIO	NO RADAR
124.5 – 303.8 120.575 – 277.1		118.2 – 126.2	

Baro-VNAV not authorized below -20˚C

VAR 8˚W (2017)

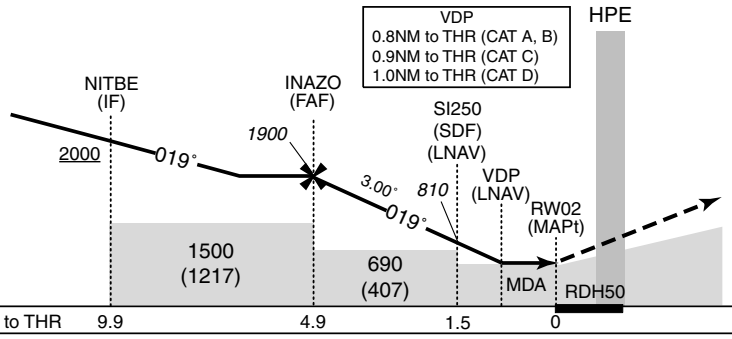


MSA 25NM

ARP: *392543N/ 1410807E*

SIOMO (IAF)	*390801.78N* *1405430.28E*
RYUTA	*390642.80N* *1410329.59E*
REMEN (IAF)	*391421.92N* *1411154.27E*
NITBE (IF)	*391517.95N* *1410534.72E*
INAZO (FAF)	*392013.09N* *1410646.65E*
SI250 (SDF)	*392335.04N* *1410735.97E*
RW02 (MAPt)	*392503.58N* *1410757.62E*
SI251 (MATF)	*393152.68N* *1410937.82E*
HPE (MAHF)	*392600.09N* *1410800.60E*

NM to Next Fix	FAF	4	3	2	1	MAPt
ALT(3.0˚ APCH Path)	1900	1606	1288	969	651	–



MISSED APPROACH

Climb direct to SI251, turn right direct to HPE and hold at 4500FT.
Contact HANAMAKI RADIO.

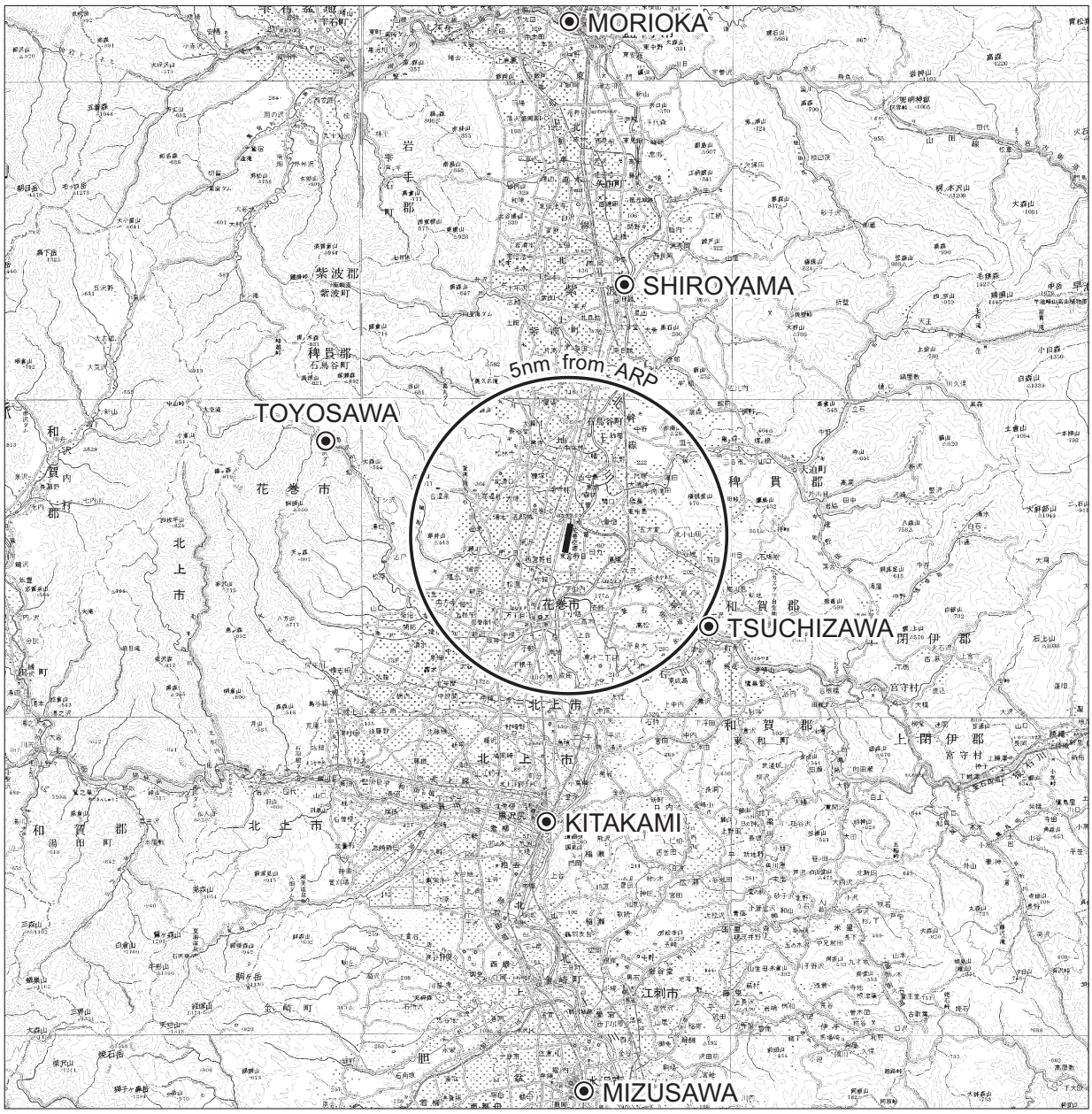
(For using VOR/DME)
Climb via HPE R020 to HPE 6.0DME, turn right, direct to HPE VOR/DME and hold at 4500FT.
Contact HANAMAKI RADIO.

Missed APCH climb gradient MNM 4 .0%

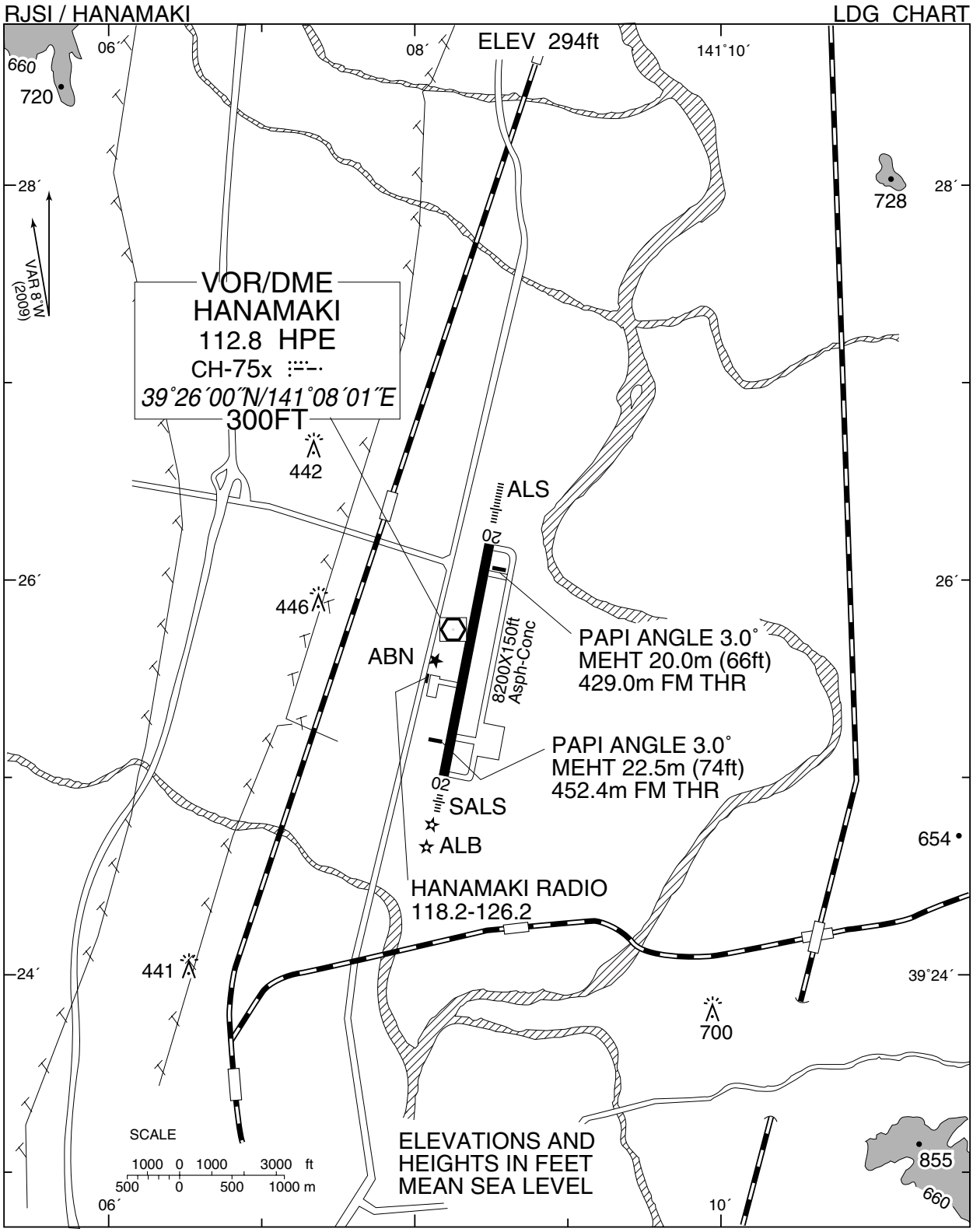
MINIMA	THR elev.283		AD elev.294			
CAT	LNAV/VNAV		LNAV		CIRCLING	
	DA(H)	CMV	MDA(H)	CMV	MDA(H)	VIS
A	610(327)	1200	610(327)	1200	760(466)	1600
B		1300		1300	860(566)	
C	630(347)	1400	630(347)	1400	1000(706)	2400
D	650(367)	1600	650(367)	1600		3200

MINIMA with Missed APCH climb gradient of 2.5% are not established.

RJSI / HANAMAKI Visual REP



Call sign	BRG / DIST from ARP	Remarks
盛　　岡 Morioka	006°/16.5NM	駅 Station
城　　山 Shiroyama	018°/ 8.4NM	城跡 The site of a castle
豊　　沢 Toyosawa	301°/ 8.0NM	豊沢湖ダム Dam
土　　沢 Tsuchisawa	127°/ 5.1NM	駅 Station
北　　上 Kitakami	192°/ 8.9NM	駅 Station
水　　沢 Mizusawa	186°/17.5NM	駅 Station


RJSI / HANAMAKI
LDG CHART
ELEV 294ft
141°10´
06´
08´
28´
26´
24´
660
720
728
VAR 8°W
(2009)
VOR/DME
HANAMAKI
112.8 HPE
CH-75x
39°26´00˝N/141°08´01˝E
300FT
442
446
441
700
ALS
20
02
8200X150ft
Asph-Conc
ABN
PAPI ANGLE 3.0°
MEHT 20.0m (66ft)
429.0m FM THR
PAPI ANGLE 3.0°
MEHT 22.5m (74ft)
452.4m FM THR
SALS
ALB
654
HANAMAKI RADIO
118.2-126.2
39°24´
SCALE
1000 0 1000 3000 ft
500 0 500 1000 m
ELEVATIONS AND
HEIGHTS IN FEET
MEAN SEA LEVEL
855
660
06´
10´

RJSI / HANAMAKI Minimum Vectoring Altitude CHART