# AD 2. AERODROME

## VNKT AD 2.1 AERODROME LOCATION INDICATOR AND NAME

**VNKT - TRIBHUVAN/International**

## VNKT AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

| | | |
|---|---|---|
| 1. | ARP Coordinates and site at AD | 274146 N 0852138 E*, Near Fire Station<br>ELEV. 1333.5m ( 4375 ft.) |
| 2. | Direction and Distance from (city) | 5.56 Km, East of Kathmandu City |
| 3. | Aerodrome Elevation/Reference Temperature | 1339.5m (4395ft)/29.81°C |
| 4. | MAG VAR/Annual Change | 0° W |
| 5. | AD Administration, address Telephone, Telefax, Telex AFS | Civil Aviation Authority of Nepal<br>Tribhuvan International Airport<br>Civil Aviation Office (TIACAO)<br>Tel +977-1-4113163, 977-1- 4113033<br>Fax +977-1-4113180<br>AFS - VNKTYDYX |
| 6. | Types of traffic permitted (IFR/VFR) | IFR / VFR |
| 7. | Remarks | - |

## VNKT AD 2.3 OPERATIONAL HOURS

| | | |
|---|---|---|
| 1. | AD Administration | SUN-THU 10:00 -17:00 LT (SUMMER),<br>10:00-1600 LT (WINTER),<br>FRI 10:00-1500 LT |
| 2. | Customs and immigration | H24 |
| 3. | Health and sanitation | H24 |
| 4. | AIS Briefing Office | As ATS |
| 5. | ATS Reporting Office (ARO) | As ATS |
| 6. | MET Briefing Office | H24 |
| 7. | ATS | H24 |
| 8. | Fuelling | As ATS |
| 9. | Handling (Cargo) | As ATS |
| 10. | Security | H24 |
| 11. | Remarks | Any change will be notified via NOTAM |

* *WGS -84 Coordinates*

## VNKT AD 2.4 HANDLING SERVICES AND FACILITIES

| | | |
|---|---|---|
| 1. | Cargo-handling facilities | Available with local airlines operator |
| 2. | Fuel/Oil Types | JET A-1 / Not available |
| 3. | Fuelling facilities/capacity | **Storage Capacity (KL):**<br>Physical -7640, Mobile-161<br>**Storage Type:**<br>Vertical Tank (1600×3, 760×3), UG Tank (70×8), Refueller<br>**Refueller Details:**<br>AR26, 27, 38 (27 KL), AR34, 35, 36, 37, 40 (16 KL) |
| 4. | De-icing facilities | NIL |
| 5. | Hangar space for visiting aircraft | NIL |
| 6. | Repair facilities for visiting aircraft | NIL |
| 7. | Remarks | - |

## VNKT AD 2.5 PASSENGER FACILITIES

| | | |
|---|---|---|
| 1. | Hotels | Hotels in the city |
| 2. | Restaurants | Available at AD and in the city |
| 3. | Transportation | Airport Taxi Service, Buses from AD |
| 4. | Medical Facilities | First Aid treatment, rest room, two ambulances available at AD, Hospitals in the city. |
| 5. | Bank and Post Office | Available at AD within AD HRS |
| 6. | Tourist Office | Tourist information center, TIA. Tel :4470537 |
| 7. | Remarks | - |

## VNKT AD 2.6 RESCUE AND FIRE FIGHTING SERVICE

| | | |
|---|---|---|
| 1. | AD Category for fire fighting | Category 9 |
| 2. | Rescue equipment | Available as per Category. |
| 3. | Capability for removal of disable aircraft | Aailable (A320 or B737) |
| 4. | Remarks | - |

## VNKT AD 2.7 SEASONAL AVAILABILITY

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|---|
| Aerodrome is available throughout the year. |

## VNKT AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATION DATA

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|---|---|---|
| 1. | Apron surface and strength | Surface - Cement Concrete<br>Strength : Bay No. 1 & 2 : PCN 66/ R/B/W/T<br>Bay No. 3 to 11 : PCN 53/ R/B/W/T |
| 2. | Taxiway width, surface and strength | TWY A, B,C, D, E,F, H, J width – 23m<br>TWY G width -18m<br>Strength TWY A, B,C, D, E,F – PCN 76F/C/W/T |
| 3. | Altimeter check Point location and elevation | Location: - At Apron<br>Elevation:-4394.76 ft |
| 4. | VOR checkpoints | Ref VNKT AD 2-21 (Aerodrome Ground Movement Chart) |
| 5. | INS checkpoints | Ref VNKT AD 2-18 (Aircraft Parking Chart) |
| 6. | Remarks | - |

## VNKT AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

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|---|---|---|
| 1. | Use of aircraft stand ID signs, TWY guide lines and visual docking/ parking guidance system of aircraft stands | Taxiing guidance signs available at all intersections with TWY and RWY and all holding positions lighted.<br>Guide lines at apron.<br>Aircraft stand ID signs available at all international aircraft stands lighted. Nose- in guidance at aircraft stands.<br>Visual docking guidance system not available. |
| 2. | RWY and TWY markings and LGT | RWY: RWY 02/20, THR, TDZ, Center line, RWY Edge marked and RWY end THR, RWY Center Line, RWY Edge have lights<br>TWY: Center line, holding positions at all TWY/RWY intersections marked and edge with blue lights. |
| 3. | Stop bars | Not Available |
| 4. | Runway Guard Lights | Available at all TWY/RWY intersections |
| 5. | Remarks | - |

# VNKT AD 2.10 AERODROME OBSTACLES

| In area 2 | | | | | | |
|---|---|---|---|---|---|---|
| **OBST ID/ Designation** | **Obstacle Type** | **Latitude** | **Longitude** | **Elevation (M/Ft)** | **Marking/Type color** | **Remarks** |
| KT0900 | Mast on corporate tower | 27°41'16.4"N | 085°21'01.8"E | 1336/4383 | Red and white lighted | |
| KT0902 | Chimney | 27°41'05.1"N | 085°21'05.1"E | 1326/4349 | | |
| KT0903 | Advertisement on the top of a building | 27°40'51.7"N | 085°20'57.5"E | 1334/4376 | | |
| KT0904 | Trees | 27°40'55.0"N | 085°21'14.5"E | 1329/4359 | | |
| KT0907 | Tower | 27°41'37.7"N | 085°21'18.6"E | 1348/4423 | | |
| KT0908 | Airport guard house | 27°40'58.7"N | 085°21'14.1"E | 1319/4326 | | |
| KT0909 | Antenna | 27°40'46.8"N | 085°20'53.8"E | 1343/4406 | Lighted | |
| KT0910 | Tower | 27°41'42.0"N | 085°21'21.0"E | 1349/4425 | | |
| KT0911 | Airport Taxiway Light | 27°41'54.4"N | 085°21'26.2"E | 1362/4467 | | |
| KT0915 | Aircrafts Hangar | 27°41'48.2"N | 085°21'48.2"E | 1355/4445 | | |
| KT0916 | Airport radar | 27°42'23.4"N | 085°22'02.5"E | 1370/4495 | Red Lighted | |
| KT0917 | Building | 27°41'55.2"N | 085°21'47.9"E | 1349/4427 | | |
| KT0920 | Monastery | 27°44'43.7"N | 085°22'26.1"E | 1505/4936 | | |
| KT0921 | Trees | 27°44'32.6"N | 085°21'50.3"E | 1476/4842 | | |
| KT0924 | Chimney | 27°38'38.8"N | 085°20'32.0"E | 1405/4611 | | |
| KT0927 | Antenna | 27°38'48.6"N | 085°18'21.8"E | 1456/4778 | Red and white lighted | |
| KT0928 | Monastery | 27°39'54.2"N | 085°17'32.0"E | 1448/4750 | | |
| KT0931 | Monastery | 27°42'47.4"N | 085°22'32.6"E | 1365/4480 | | |
| KT0932 | Building | 27°42'34.9"N | 085°22'07.4"E | 1353/4438 | | |
| KT0933 | Antenna | 27°43'15.4"N | 085°22'30.6"E | 1368/4488 | Red and white lighted | |
| KT0934 | Antenna on building | 27°43'08.8"N | 085°21'02.8"E | 1383/4538 | Red and white lighted | |
| KT1000 | Building | 27°40'40.6"N | 085°20'57.5"E | 1319/4326 | | |
| KT1001 | Antenna on building | 27°40'40.5"N | 085°20'57.3"E | 1321/4333 | | |
| KT1002 | Antenna on building | 27°40'40.9"N | 085°20'57.3"E | 1323/4342 | | |
| KT1003 | Building | 27°40'41.1"N | 085°20'57.2"E | 1319/4326 | | |
| KT1006 | Building | 27°40'40.3"N | 085°20'56.1"E | 1333/4372 | | |
| KT1007 | Building | 27°40'40.4"N | 085°20'55.8"E | 1336/4385 | | |
| KT1009 | Building | 27°40'41.0"N | 085°20'56.7"E | 1326/4351 | | |
| KT1010 | Building | 27°40'41.2"N | 085°20'56.7"E | 1327/4355 | | |
| KT1011 | Tank on building | 27°40'41.3"N | 085°20'56.8"E | 1329/4361 | | |
| KT1012 | Building | 27°40'41.5"N | 085°20'56.6"E | 1328/4358 | | |
| KT1013 | Building | 27°40'41.5"N | 085°20'56.7"E | 1326/4350 | | |

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|---|---|---|---|---|---|---|
| KT1014 | Building | 27°40'44.3"N | 085°20'57.3"E | 1332/4372 | | |
| KT1015 | Building | 27°40'44.7"N | 085°20'57.4"E | 1333/4372 | | |
| KT1019 | Pipe on Building | 27°40'44.4"N | 085°20'57.0"E | 1333/4373 | | |
| KT1020 | Building | 27°40'44.4"N | 085°20'57.1"E | 1333/4372 | | |
| KT1022 | Pipe on Building | 27°40'44.5"N | 085°20'56.9"E | 1333/4374 | | |
| KT1023 | Sign on Building | 27°40'44.5"N | 085°20'57.7"E | 1323/4339 | | |
| KT1024 | Builidng | 27°40'41.4"N | 085°20'56.8"E | 1325/4346 | | |
| KT1025 | Tank on building | 27°40'45.0"N | 085°20'57.1"E | 1334/4377 | | |
| KT1026 | Building | 27°40'45.1"N | 085°20'57.5"E | 1333/4372 | | |
| KT1027 | Builidng | 27°40'44.9"N | 085°20'57.5"E | 1333/4372 | | |
| KT1028 | Building | 27°40'44.9"N | 085°20'57.4"E | 1333/4372 | | |
| KT1029 | Building | 27°40'44.4"N | 085°20'57.5"E | 1333/4374 | | |
| KT1031 | Sign on Building | 27°40'45.0"N | 085°20'57.8"E | 1322/4338 | | |
| KT1032 | Building | 27°40'40.9"N | 085°20'55.8"E | 1330/4364 | | |
| KT1033 | Builidng | 27°40'41.1"N | 085°20'56.1"E | 1326/4351 | | |
| KT1034 | Antenna on building | 27°40'40.4"N | 085°20'55.5"E | 1337/4387 | | |
| KT1037 | Building | 27°40'44.2"N | 085°20'57.6"E | 1322/4337 | | |
| KT1038 | Building | 27°40'45.0"N | 085°20'57.8"E | 1322/4339 | | |
| KT1039 | Tank on building | 27°40'38.4"N | 085°21'07.6"E | 1324/4344 | | |
| KT1040 | Pole on building | 27°40'38.7"N | 085°21'07.8"E | 1324/4345 | | |
| KT1041 | Tank on building | 27°40'40.7"N | 085°21'08.5"E | 1328/4358 | | |
| KT1042 | Building | 27°40'42.3"N | 085°21'08.1"E | 1320/4331 | | |
| KT1043 | Tank on building | 27°40'43.0"N | 085°21'10.0"E | 1328/4356 | | |
| KT1045 | Pole on building | 27°40'44.0"N | 085°21'10.2"E | 1327/4354 | | |
| KT1046 | Pole on building | 27°40'47.7"N | 085°21'10.0"E | 1323/4340 | | |
| KT1047 | Tank on building | 27°40'51.7"N | 085°21'14.7"E | 1329/4361 | | |
| KT1048 | Tree | 27°40'53.1"N | 085°21'12.6"E | 1326/4349 | | |
| KT1049 | Tree | 27°40'47.3"N | 085°21'09.3"E | 1322/4336 | | |
| KT1050 | Tree | 27°40'45.5"N | 085°21'10.8"E | 1322/4337 | | |
| KT1051 | Tree | 27°40'43.3"N | 085°21'11.4"E | 1328/4357 | | |
| KT1053 | Antenna of ATCT | 27°42'01.2"N | 085°21'25.4"E | 1370/4493 | | |
| KT1054 | Light pole | 27°41'58.4"N | 085°21'28.0"E | 1364/4476 | | |
| KT1055 | Light pole | 27°42'00.4"N | 085°21'29.0"E | 1365/4477 | | |
| KT1056 | Light pole | 27°42'02.5"N | 085°21'29.8"E | 1365/4478 | | |
| KT1057 | Light pole | 27°42'04.5"N | 085°21'30.7"E | 1365/4479 | | |
| KT1058 | Light pole | 27°42'06.1"N | 085°21'31.5"E | 1365/4477 | | |
| KT1059 | Tree | 27°42'10.3"N | 085°21'32.0"E | 1363/4470 | | |
| KT1061 | Pole on building | 27°43'56.8"N | 085°22'25.2"E | 1391/4562 | | |

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| KT1062 | Pole on building | 27°43'57.1"N | 085°22'29.7"E | 1392/4567 | | |
| KT1063 | Tank on building | 27°43'55.7"N | 085°22'29.0"E | 1392/4566 | | |
| KT1064 | Pole on building | 27°43'55.2"N | 085°22'25.9"E | 1389/4558 | | |
| KT1065 | Antenna of building | 27°43'54.3"N | 085°22'26.8"E | 1398/4585 | | |
| KT1066 | Pole on building | 27°43'53.2"N | 085°22'25.7"E | 1390/4559 | | |
| KT1067 | Building | 27°43'52.0"N | 085°22'25.1"E | 1406/4613 | | |
| KT1068 | Tank on building | 27°43'54.9"N | 085°22'23.2"E | 1388/4555 | | |
| KT1069 | Tree | 27°43'54.5"N | 085°22'20.8"E | 1397/4584 | | |
| KT1070 | Pole on building | 27°43'53.9"N | 085°22'21.5"E | 1386/4548 | | |
| KT1071 | Pole on building | 27°43'56.7"N | 085°22'22.7"E | 1388/4554 | | |
| KT1072 | Building | 27°44'32.6"N | 085°21'50.9"E | 1473/4833 | | |
| KT1079 | Antenna | 27°43'49.4"N | 085°22'33.1"E | 1400/4594 | | |
| KT1080 | Antenna | 27°43'48.5"N | 085°22'31.7"E | 1401/4597 | | |
| KT1081 | Antenna | 27°44'31.6"N | 085°21'49.6"E | 1470/4822 | | |
| KT1084 | Building | 27°44'39.2"N | 085°22'06.1"E | 1488/4882 | | |
| KT1085 | Building | 27°44'43.8"N | 085°22'26.6"E | 1506/4942 | | |
| KT1086 | Building | 27°44'45.6"N | 085°22'32.2"E | 1512/4962 | | |
| KT1087 | Antenna on building | 27°44'42.3"N | 085°22'32.9"E | 1500/4922 | | |
| KT1088 | Antenna | 27°44'39.5"N | 085°22'36.5"E | 1498/4915 | | |
| KT1089 | Tree | 27°44'30.9"N | 085°22'51.7"E | 1462/4796 | | |
| KT1101 | Tree | 27°44'36.4"N | 085°22'36.7"E | 1486/4874 | | |
| KT1102 | Tank on building | 27°43'42.7"N | 085°22'14.9"E | 1389/4555 | | |
| KT1103 | Building | 27°43'17.0"N | 085°21'42.9"E | 1374/4509 | | |
| KT1104 | Building | 27°43'38.3"N | 085°22'13.0"E | 1385/4544 | | |
| KT1105 | Tree | 27°43'34.2"N | 085°22'14.9"E | 1382/4534 | | |
| KT1106 | Tree | 27°43'27.8"N | 085°22'23.6"E | 1385/4546 | | |
| KT1107 | Pipe on Building | 27°43'42.9"N | 085°22'19.4"E | 1384/4540 | | |
| KT1108 | Antenna | 27°43'40.7"N | 085°22'31.0"E | 1391/4563 | | |
| KT1109 | Antenna | 27°43'45.5"N | 085°22'26.1"E | 1394/4574 | | |
| KT1111 | Antenna | 27°43'45.3"N | 085°22'22.7"E | 1391/4563 | | |
| KT1112 | Tree | 27°40'36.4"N | 085°21'06.5"E | 1324/4343 | | |
| KT1113 | Building | 27°40'36.0"N | 085°21'06.6"E | 1321/4334 | | |
| KT1114 | Pole on building | 27°40'27.9"N | 085°21'05.3"E | 1323/4339 | | |
| KT1115 | Tank on building | 27°40'27.3"N | 085°21'05.0"E | 1323/4341 | | |
| KT1116 | Light pole | 27°40'33.4"N | 085°21'01.7"E | 1317/4322 | | |
| KT1117 | Tank on building | 27°40'27.6"N | 085°21'02.1"E | 1320/4331 | | |
| KT1118 | Light pole | 27°40'34.2"N | 085°21'00.9"E | 1319/4326 | | |
| KT1119 | Tree | 27°43'39.6"N | 085°22'47.2"E | 1358/4457 | | |

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| KT1121 | Building | 27°43'53.7"N | 085°22'38.1"E | 1391/4563 | | |
| KT1122 | Tree | 27°43'55.3"N | 085°22'36.1"E | 1401/4595 | | |
| KT1123 | Tree | 27°43'59.8"N | 085°22'42.6"E | 1395/4576 | | |
| KT1124 | Building | 27°44'02.1"N | 085°22'51.2"E | 1366/4481 | | |
| KT1125 | Tree | 27°44'07.0"N | 085°22'44.4"E | 1396/4582 | | |
| KT1126 | Tree | 27°44'26.1"N | 085°22'53.9"E | 1450/4758 | | |
| KT1127 | Tree | 27°44'26.2"N | 085°22'57.2"E | 1451/4761 | | |
| KT1128 | Tree | 27°44'21.0"N | 085°23'09.3"E | 1401/4597 | | |
| KT1129 | Tree | 27°44'14.2"N | 085°23'17.3"E | 1393/4571 | | |
| KT1130 | Tree | 27°44'13.2"N | 085°23'22.4"E | 1402/4601 | | |
| KT1131 | Tree | 27°43'57.5"N | 085°23'26.5"E | 1407/4617 | | |
| KT1132 | Tree | 27°43'42.2"N | 085°23'20.4"E | 1412/4632 | | |
| KT1133 | Tree | 27°43'33.7"N | 085°23'11.3"E | 1398/4586 | | |
| KT1134 | Power Pole | 27°43'50.8"N | 085°23'08.7"E | 1352/4434 | | |
| KT1135 | Power Pole | 27°43'58.9"N | 085°23'10.7"E | 1353/4439 | | |
| KT0001 | Tree | 27°42'14.7"N | 85°21'24.9"E | 1380/4528 | | |
| KT0002 | House | 27°42'01.1"N | 85°21'12.0"E | 1353/4440 | | |
| KT0003 | House | 27°41'52.3"N | 85°21'16.8"E | 1348/4423 | | |
| KT0005 | Tree | 27°42'15.2"N | 85°21'23.2"E | 1369/4493 | | |
| KT0006 | Tree | 27°42'33.6"N | 85°21'07.8"E | 1385/4544 | | |
| KT0008 | Radar | 27°42'23.0"N | 85°22'02.7"E | 1367/4486 | | |
| KT0009 | Radar | 27°42'23.7"N | 85°22'02.2"E | 1362/4470 | | |
| KT0010 | Radar | 27°42'24.0"N | 85°22'02.0"E | 1362/4470 | | |
| KT0011 | Tree | 27°42'36.3"N | 85°21'49.1"E | 1352/4436 | | |
| KT0012 | Tree | 27°42'23.0"N | 85°21'44.2"E | 1345/4412 | | |
| KT0013 | Tree | 27°42'23.4"N | 85°21'45.1"E | 1344/4411 | | |
| KT0014 | Tree | 27°42'27.2"N | 85°21'47.1"E | 1343/4407 | | |
| KT0015 | Wind Shock | 27°42'26.4"N | 85°21'54.0"E | 1344/4408 | | |
| KT0016 | Meteorology Antenna | 27°42'20.4"N | 85°21'51.5"E | 1345/4414 | | |
| KT0017 | Meteorology Antenna | 27°42'20.0"N | 85°21'50.9"E | 1341/4398 | | |
| KT0018 | Water Tank | 27°42'21.2"N | 85°21'57.7"E | 1343/4407 | | |
| KT0019 | Water Tank | 27°42'19.3"N | 85°21'55.4"E | 1341/4400 | | |
| KT0020 | Tree | 27°42'03.3"N | 85°21'47.8"E | 1347/4419 | | |
| KT0021 | Telecom Tower | 27°42'01.9"N | 85°22'02.5"E | 1359/4459 | | |
| KT0023 | Fire Station | 27°41'46.9"N | 85°21'41.9"E | 1349/4425 | | |
| KT0024 | Fire Station | 27°41'47.0"N | 85°21'41.1"E | 1344/4410 | | |
| KT0025 | Fire Station | 27°41'45.4"N | 85°21'40.4"E | 1343/4406 | | |
| KT0026 | Tree | 27°41'25.9"N | 85°21'27.2"E | 1327/4353 | | |

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|---|---|---|---|---|---|---|
| KT0027 | Electric Pole | 27°41'26.2"N | 85°21'26.8"E | 1326/4350 | | |
| KT0028 | Tree | 27°41'18.2"N | 85°21'24.4"E | 1328/4358 | | |
| KT0029 | House | 27°41'06.6"N | 85°21'18.6"E | 1318/4324 | | |
| KT0030 | Tree | 27°41'06.3"N | 85°21'19.1"E | 1319/4327 | | |
| KT0031 | Tree | 27°41'04.0"N | 85°21'17.4"E | 1319/4326 | | |
| KT0032 | Telecom Tower | 27°41'02.1"N | 85°21'18.5"E | 1320/4332 | | |
| KT0033 | Tree | 27°41'02.5"N | 85°21'16.5"E | 1318/4324 | | |
| KT0034 | Tree | 27°41'01.6"N | 85°21'16.1"E | 1319/4326 | | |
| KT0035 | Telecom Tower | 27°42'46.5"N | 85°20'43.0"E | 1367/4484 | | |
| KT0036 | FM Antenna | 27°42'53.2"N | 85°20'43.1"E | 1385/4543 | | |
| KT0037 | Telecom Tower | 27°42'49.2"N | 85°20'43.4"E | 1377/4518 | | |
| KT0039 | House | 27°40'53.4"N | 85°21'14.1"E | 1321/4334 | | |
| KT0041 | Tree | 27°40'49.7"N | 85°21'11.8"E | 1319/4328 | | |
| KT0042 | Electric Pole | 27°40'47.8"N | 85°21'10.4"E | 1319/4328 | | |
| KT0048 | House | 27°40'49.2"N | 85°20'57.0"E | 1328/4356 | | |
| KT0049 | TH End | 27°40'53.0"N | 85°21'08.1"E | 1312/4303 | | |
| KT0050 | Meteorology Antenna | 27°41'12.6"N | 85°21'13.5"E | 1320/4332 | | |
| KT0051 | Meteorology Antenna | 27°41'12.5"N | 85°21'13.4"E | 1323/4341 | | |
| KT0052 | Tree | 27°41'09.7"N | 85°21'09.7"E | 1317/4321 | | |
| KT0054 | light | 27°41'02.1"N | 85°21'05.8"E | 1318/4325 | | |
| KT0055 | Annapurna Building Flag | 27°41'16.1"N | 85°21'01.7"E | 1333/4374 | | |
| KT0056 | Annapurna Top | 27°41'16.3"N | 85°21'01.8"E | 1333/4374 | | |
| KT0057 | Antenna | 27°41'54.5"N | 85°21'22.7"E | 1353/4438 | | |
| KT0060 | NOC Tower | 27°41'41.4N | 85°21'23.6"E | 1337/4385 | | |
| KT0061 | Tree | 27°41'43.4"N | 85°21'24.4"E | 1336/4383 | | |
| KT0064 | Suncity | 27°41'32.4"N | 85°22'16.6"E | 1356/4449 | | |
| KT0065 | Suncity | 27°41'32.4"N | 85°22'15.3"E | 1356/4449 | | |
| KT0067 | Suncity | 27°41'34.2"N | 85°22'17.3"E | 1356/4449 | | |
| KT0068 | Suncity | 27°41'36.0"N | 85°22'15.5"E | 1356/4449 | | |
| KT0069 | Lalit Tower | 27°38'59.3"N | 85°19'55.4"E | 1367/4485 | | |
| KT0070 | Lalit Tower | 27°38'56.5"N | 85°19'54.4"E | 1367/4485 | | |
| KT0071 | Classic Tower | 27°39'00.5"N | 85°19'46.9"E | 1371/4497 | | |
| KT0072 | Classic Tower | 27°39'00.1"N | 85°19'45.4"E | 1372/4502 | | |
| KT0073 | Classic Tower | 27°39'00.2"N | 85°19'45.3"E | 1372/4501 | | |
| KT0074 | Radio Antenna | 27°39'09.4"N | 85°19'45.8"E | 1378/4521 | | |
| KT0075 | Tree with Flag | 27°42'37.9"N | 85°27'11.6"E | 1676/5499 | | |
| KT0076 | Changu Narayan Temple | 27°42'59.0"N | 85°25'40.2"E | 1554/5098 | | |
| KT0077 | Tree | 27°43'00.4"N | 85°25'40.7"E | 1554/5099 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| KT0078 | Prabhu TV | 27°37'23.2"N | 85°22'42.2"E | 1771/5810 | | |
| KT0079 | Tree | 27°37'01.8"N | 85°24'37.5"E | 2005/6578 | | |
| KT0080 | Tree | 27°37'06.8"N | 85°24'47.9"E | 2009/6593 | | |
| KT0081 | Tree | 27°37'11.4"N | 85°24'53.8"E | 2025/6643 | | |
| KT0082 | Resort | 27°37'29.3"N | 85°24'44.7"E | 1948/6391 | | |
| KT0083 | Electric Pole | 27°37'23.5"N | 85°24'48.4"E | 1992/6535 | | |
| KT0084 | Tree | 27°37'11.2"N | 85°25'19.2"E | 2022/6633 | | |
| KT0085 | Tree | 27°37'19.3"N | 85°26'02.8"E | 2017/6618 | | |
| KT0086 | Tree | 27°37'27.5"N | 85°25'40.1"E | 2022/6632 | | |
| KT0087 | Tree | 27°37'45.2"N | 85°25'41.3"E | 1860/6104 | | |
| KT0088 | House | 27°38'12.47"N | 85°25'36.0"E | 1737/5698 | | |
| KT0089 | Pilot Baba Temple Top 1 | 27°38'26.2"N | 85°25'20.9"E | 1673/5488 | | |
| KT0090 | Tree | 27°38'21.9"N | 85°25'27.6"E | 1723/5654 | | |
| KT0091 | Gumba Top Chobhar | 27°39'52.8"N | 85°17'32.6"E | 1456/4776 | | |
| KT0092 | Water Tank | 27°39'09.1"N | 85°16'02.0"E | 1635/5365 | | |
| KT0093 | Pole | 27°43'05.8"N | 85°16'34.4"E | 1519/4983 | | |
| KT0094 | Swyambhu Stupa Top | 27°42'53.7"N | 85°17'25.5"E | 1434/4705 | | |
| KT0095 | Telecom Tower | 27°43'39.8"N | 85°15'39.0"E | 1615/5298 | | |
| KT0096 | Tree | 27°43'41.3"N | 85°15'31.1"E | 1620/5314 | | |
| KT0097 | White Gumba Pole Top | 27°43'31.5"N | 85°15'41.6"E | 1605/5267 | | |
| KT0098 | Top | 27°44'42.8"N | 85°16'01.0"E | 2108/6917 | | |
| KT0099 | Tree | 27°32'29.9"N | 85°18'10.6"E | 2270/7449 | | |
| KT0100 | Tree | 27°32'31.0"N | 85°18'11.0"E | 2274/7460 | | |
| KT0101 | Tree | 27°32'20.9"N | 85°17'18.7"E | 2343/7685 | | |
| KT0102 | Tree | 27°32'33.0"N | 85°17'14.5"E | 2286/7500 | | |
| KT0103 | Santaneswor Temple | 27°36'55.1" N | 85°20'39.4" E | 1521/4991 | | |
| KT0104 | Tree | 27°33'06.3" N | 85°17'02.1" E | 2156/7073 | | |
| KT0105 | Tree | 27°33'05.9" N | 85°17'08.2" E | 2158/7081 | | |
| KT0106 | WIFI Pole | 27°33'12.6" N | 85°16'59.7" E | 2119/6953 | | |
| KT0107 | Tree | 27°33'39.6" N | 85°16'44.3" E | 2084/6838 | | |
| KT0108 | Tree | 27°36'46.5" N | 85°20'22.9" E | 1517/4977 | | |
| KT0109 | Ground Height | 27°36'46.3" N | 85°20'22.6" E | 1498/4916 | | |
| KT0110 | Tree | 27°34'57.7" N | 85°19'02.1" E | 1783/5851 | | |
| KT0111 | Ground Height | 27°34'57.9" N | 85°19'01.9" E | 1769/5803 | | |
| KT0112 | Tree | 27°34'55.1" N | 85°19'24.0" E | 1764/5788 | | |
| KT0113 | Ground Height | 27°34'55.1" N | 85°19'24.0" E | 1751/5744 | | |
| KT0114 | Telecom Tower | 27°35'49.2" N | 85°19'25.6" E | 1516/4973 | | |
| KT0115 | Tree | 27°36'44.3" N | 85°24'35.6" E | 2077/6815 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| KT0116 | Tree | 27°36'38.8" N | 85°24'24.5" E | 2128/6983 | | |
| KT0117 | Bamboo | 27°38'25.3" N | 85°24'26.8" E | 1622/5322 | | |
| KT0118 | Electric Pole | 27°38'20.9" N | 85°24'27.1" E | 1630/5347 | | |
| KT0119 | Tree | 27°46'20.9" N | 85°22'54.0" E | 1755/5758 | | |
| KT0120 | Tree | 27°46'16.0" N | 85°22'50.6" E | 1740/5710 | | |
| KT0121 | Tree | 27°46'02.0" N | 85°22'14.8" E | 1596/5236 | | |
| KT0122 | Nagi Gumba Pipe | 27°47'00.1" N | 85°22'54.2" E | 2001/6564 | | |
| KT0123 | Tree | 27°47'01.2" N | 85°22'55.1" E | 2026/6648 | | |

**In Area 3**

| OBST ID/ Designation | Obst Type | Latitude | Longitude | Elevation (M/Ft) | Markings / Type, color | Remarks |
|---|---|---|---|---|---|---|
| KT0901 | Wind shock | 27°41'05.7"N | 085°21'09.3"E | 1323/4340 | Red and white strip/ lighted | |
| KT0905 | Airport meteorological station | 27°41'12.4"N | 085°21'13.7"E | 1325/4347 | Red and white strip/ lighted | |
| KT0906 | Airport guard house | 27°41'27.7"N | 085°21'18.3"E | 1331/4367 | NIL | |
| KT0918 | Wind shock | 27°41'57.0"N | 085°21'40.7"E | 1345/4413 | Red and white strip/ lighted | |

## VNKT AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

| | | |
|---|---|---|
| 1. | Associated MET Office | MET office, TIA Kathmandu |
| 2. | Hours of Service | 24 Hours |
| 3. | Office responsible for TAF preparation/ periods of validity | Every 6 Hour/24 Hours |
| 4. | Type of landing forecast interval of issuance | TREND |
| 5. | Briefing/Consultation provided | Personal Consultation |
| 6. | Flight documentation language(s) used | Charts or Tabular forms/ Text English |
| 7. | Charts and other information available for briefing or consultation | Personal Consultation |
| 8. | Supplementary equipment available for information | Self- briefing terminal |
| 9. | ATS units provided with information | Kathmandu ACC, Kathmandu Approach, Kathmandu TWR |
| 10. | Additional information (limitation of service, etc.) | Tel : (MET Office) 977-01-4113191, 01-4486869 |

## VNKT AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

| Designation RWY NR | TRUE & MAG BRG | Dimensions of RWY (M) | Strength PCN and surface of RWY and SWY | THR Coordinates, RWY End Coordinates | THR elevation |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 02 | 022° | 3074 x 45 | 76 F/C/W/T | 27°41' 01.96" N*<br>085°21' 12.20" E<br>27°42' 25.60" N*<br>085° 21' 50.17" E | 1316.9m<br>(4320 ft) |
| 20 | 202° | 3074 x 45 | 76 F/C/W/T | 27° 42' 25.60" N*<br>085° 21' 50.17" E<br>27° 40' 52.92" N*<br>085° 21' 08.10" E | 1339.5m<br>(4395 ft) |
| Slope of RWY-SWY | SWY Dimensions M | CWY Dimensions M | Strip Dimensions M | OFZ | Remarks (RESA) |
| 7 | 8 | 9 | 10 | 11 | 12 |
| +0.807% avg | - | 300 x 150<br>300 x 150 | 3194x280 | NA | 240x 90 at both end of RWY. |

## VNKT AD 2.13 DECLARED DISTANCES

| RWY Designator | TORA (m) | TODA (m) | ASDA (m) | LDA (m) | Remarks |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 02<br>20 | 3074<br>3074 | 3374<br>3374 | 3074<br>3074 | 2774<br>3074 | |

## VNKT AD 2.14 APPROACH AND RUNWAY LIGHTING

| RWY Designation | APCH LGT Type Length INTST | THR LGT color WBAR | VASIS PAPI | TDZ LGT LEN | RWY Center Line LGT Length, spacing color, INTST | RWY edge LGT LEN, spacing color INTST | RWY End LGT Color | SWY LGT LEN M Color | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 02 | 870M (29 X30) LIH (High intensity consisting of extended center line) | Green | PAPI 3.00° MEHT 19.94m | NIL | 3074m, 30m c/c, Bi- directional variable white-red inset center line lights, High Intensity | 3074m , 60m c/c, Bi- directional variable white-yellow, Red-Yellow elevated edge lights, High Intensity | Red | NIL | CAT I APP lights Barrette type with Sequential Flasher |
| 20 | NIL | Green | PAPI 3.00° MEHT 19.94m | NIL | 3074m, 30m c/c, Bi- directional variable white-red inset center line lights, High Intensity | 3074m , 60m c/c, Bi- directional variable white-yellow elevated edge lights, High Intensity | Red | NIL | PAPI RWY 20 is restricted to be usable within 3NM from Run-way Threshold with clearly visible. |

* WGS -84 Coordinates

## VNKT AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

| | | |
|---|---|---|
| 1. | ABN Location, characteristics and hours of operation | ABN: Above Aerodrome Control Tower, Green flashes alternating with white flashes, 24 flashes per minute normally after sunset. |
| 2. | LDI Location and LGT Anemometer Location and LGT | WDI: Left of THR RWY 02/20, and middle of RWY at east lighted.<br>Anemometer: TWR BLDG, not lighted |
| 3. | TWY edge and Centre line lighting | Edge: All TWY<br>Centre Line : NIL |
| 4. | Secondary power supply / switch over time | Automatic stand-by generator and power available within 15 seconds. |
| 5. | Remarks | 1 Runway Guard Light ( RGL) location and characteristics Location: RWY holding position at TWY A, B, C, D and E. Characteristics: A pair of high intensity, unidirectional, yellow flashing elevated light, configuration – A.<br>2 Runway Threshold Identification Light (RTIL) Location and Characteristics Location: RWY Threshold 20 Flashing white light with flash frequency 120 per minute.<br>3. Apron Flood lights Location and Characteristics Location: International and Domestic aircraft stands. Fixed white lights. |

## VNKT AD 2.16 HELICOPTER LANDING AREA

**East of Runway Opposite to the Taxiway No. B and C**

## VNKT AD 2.17 ATS AIRSPACE

| | |
|---|---|
| 1. Designation and lateral limits | **Kathmandu CTR**, A circle with a radius of 10 NM centered on KTM VOR/DME (274025 N 0852055 E*) and an area up to 15 NM in the following three sectors: Between. R070 -R130, R190 - R230, R265- R310.<br>**Kathmandu ATZ**, An area of a circle of 5 NM centered at ARP* (274146 N 0852138 E*) |
| 2. Vertical Limits | CTR: 7500' AMSL , ATZ 2000' AGL<br>GND GND |
| 3. Airspace classification | C |
| 4. ATS units call sign languages | Kathmandu Approach / Kathmandu Tower English |
| 5. Transition Altitude | 13500' AMSL |
| 6. Remarks | - |

* WGS -84 Coordinates

## VNKT AD 2.18 ATS COMMUNICATION FACILITIES

| Service Designation | Call Sign | Frequency | Hours of Operation | Remarks |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| TWR | Kathmandu Tower | 118.1 MHZ<br>118.5 MHZ | As ATS | |
| SMC | Kathmandu Ground | 121.9 MHZ | | |
| APP | Kathmandu Approach | 120.6 MHZ<br>125.1 MHZ | | |
| ACC | Kathmandu Control | 126.5 MHZ<br>124.7 MHZ | | |
| ATIS | Kathmandu Terminal | 127.0 MHZ | | |
| A/G | Kathmandu Radio | 6607 KHZ | As ATS | For Domestic Flights |

## VNKT AD 2.19 RADIO NAVIGATION AND LANDING AID

| Type of Aid MAG VAR Type of supported OP (for VOR/ILS/MLS give declinations) | ID | Frequency | OPR Hours | Position of Transmitting Antenna Coordinates | Elevation of DME Transmitting Antenna | Remarks |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| DVOR DME<br>0 W | KTM | 113.2 MHz<br>CHN 79 X | H24 | 274025 N*<br>0852055E | 1330 m | |
| Locator Nalinchowk | LNC | 252 KHz | H24 | 273901 N*<br>0852754 E | | |
| Locator Thecho | LTH | 230 KHz | H24 | 273645 N*<br>0851924 E | | |
| LOCALIZER<br><br>DME<br><br>$0^0$W | IKT | 108.1 MHz<br><br>CHN 18X | H24 | 274234.7N<br>0852154.4E<br>274233.8N<br>0852157.2E | 1345m | |

** WGS -84 Coordinates*

## VNKT AD 2.20 LOCAL TRAFFIC REGULATIONS

NIL

## VNKT AD 2.21 NOISE ABATEMENT PROCEDURES

NIL

## VNKT AD 2.22 FLIGHT PROCEDURES

### 1. VISUAL DEPARTURE

1.1 A visual departure is a departure by an IFR flight when either part or all of an instrument departure procedure (e.g. standard instrument departure (SID) is not completed and the departure is executed in visual reference to terrain.

1.2 An IFR flight may be cleared to execute a visual departure upon request of the pilot or if initiated by the controller and accepted by the pilot.

1.3 To execute a visual departure, the aircraft take-off performance characteristics will allow them to make an early turn after take-off. Visual departure will be executed under the following conditions:

a) the meteorological conditions in the direction of take-off and the following climb-out will not impair the procedure up to an altitude as published in this manual and in AIP Nepal, e.g. minimum flight altitude (MFA) or minimum sector altitude (MSA);
b) the procedure will be applied during the daytime when VMC exists.
c) th pilot will be responsible for maintaining obstacle clearance until the specified MSA or MEA. Further clearance (route, heading, point) will be specified by ATC; and
d) separation will be provided between an aircraft cleared to execute a visual departure and other departing and arriving aircraft.

1.4 Prior to take-off, the pilot should agree to execute a visual departure by providing a read-back of the ATC clearance.

## VNKT AD 2.23 ADDITIONAL INFORMATION

### 1. Bird Activity

a) Normally from the month of July/August to November/December, cases of bird concentrations and bird strikes at or in the vicinity of aerodrome has been reported now and then. In other months stray birds may be encountered occasionally.
b) Lot of measures have been adopted to control these bird concentrations including driving them through guards and security personnel.

### 2. PAST UNDERSTANDING ATC-PILOT INTERACTION

a. Landing sequence will be issued by approach and all aircraft are to strictly adhere to this sequence. Approach sequence is to be established by 10DME and no overtaking is permitted after 10DME.

b. Departure sequences to be provided on first come first serve basis with ATC discretion.

c. Unless otherwise cleared by ATC, it is agreed that
<u>When runway in use is 20</u>

- Inbound traffic from west is to enter valley via Kakani pass and from east via Nagarkot pass
- Departing traffic is to leave valley via Biratnagar pass for east and Bharatpur pass for west

<u>When runway in use is 02</u>

- Enter valley via Bharatpur pass from west and Biratnagar pass from east and leave valley via Kakani and Nagarkot pass.

d. VFR rules to be strictly followed by pilots. Traffic avoidance service may be provided on pilots request. Upon receiving such request ATC will try to provide positive separation as far as possible.

e. Pilots to report traffic in sight to release restriction for climb and descend.

f. Maintain 10miles TCAS separation by the aircraft at same level while following High Level Mountain Flight Procedure.

### 3. Global Reporting Format (GRF) is implemented.

## VNKT AD 2.24 CHARTS & PROCEDURES RELATED TO KATHMANDU/TIA


| | | |
|---|---|---|
| Aerodrome Chart -ICAO | | VNKT AD 2-17 |
| Aircraft Parking Chart -ICAO (International) | | VNKT AD 2-18 |
| Remote Aircraft Parking Apron | | VNKT AD 2-19 |
| Aircraft Parking Chart -ICAO (Domestic) | | VNKT AD 2-20 |
| Aerodrome ground movement Chart | | VNKT AD 2-21 |
| Slope -Longitudinal Profile | | VNKT AD 2-22 |
| Aerodrome Obstacle Chart | | VNKT AD 2-23 |
| Visual Aerodrome Traffic Circuit | VNKT AD 2-24 | VNKT AD 2-27 |
| Standard Departure Chart -ICAO | VNKT AD 2-28 | VNKT AD 2-34 |
| Standard Terminal Arrival Route | VNKT AD 2-35 | VNKT AD 2-36 |
| Instrument Approach Chart -ICAO | VNKT AD 2-37 | VNKT AD 2-39 |
| RNP AR (Authorization Required) approach procedure at Tribhuvan International airport | VNKT AD 2-40 | VNKT AD 2-58 |
| Standard Arrival – Instrument (STAR) - ICAO (RNP) | VNKT AD 2-59 | VNKT AD 2-60 |
| Instrument Approach Chart – ICAO RNP RWY 02 (AR) | VNKT AD 2-61 | VNKT AD 2-63 |
| RNP Missed Approach RWY 02 (AR) | | VNKT AD 2-64 |
| Instrument Approach Chart – ICAO RNP RWY 20 (AR) | | VNKT AD 2-65 |
| RNP Missed Approach RWY 20 (AR) | | VNKT AD 2-66 |
| Standard Departure Chart RNP AR Departures | VNKT AD 2-67 | VNKT AD 2-69 |
| Kathmandu Terminal Area Chart | | VNKT AD 2-70 |
| Kathmandu IFR Holding | | VNKT AD 2-71 |
| TIA Controlled Airspace | | VNKT AD 2-72 |
| Kathmandu VFR Holdings | | VNKT AD 2-73 |
| VFR Holding (Outside Valley) | | VNKT AD 2-74 |
| Kathmandu Mountain Flight Route | | VNKT AD 2-75 |
| Kathmandu Heli-lane | VNKT AD 2-76 | VNKT AD 2-79 |

**AERODROME CHART-ICAO**

**AERODROME ELEV 4395 ft.**

**TWR 118.1**
**APP 120.6/125.1 MHZ**

**KATHMANDU / TRIBHUVAN INTERNATIONAL AIRPORT**

| AIRCRAFT STAND | COORDINATES (LAT, LONG) | ELEVATION (m, AMSL) | AIRCRAFT TYPE | DIMENSION (L*B) METER$^2$ | SURFACE & STRENGTH |
|---|---|---|---|---|---|
| BAY-1 | 27°41'49.1928", 85°21'24.977" | 1332.41 | DESIGNED AIRCRAFT - AIRBUS 330-300 AND SIMILAR AIRCRAFT TYPES | 73*65 | Cement Concrete PCN66/R/B/W/T (Provisional) |
| BAY-2 | 27°41'51.3816", 85°21'25.978" | 1333.28 | DESIGNED AIRCRAFT - AIRBUS 330-300 AND SIMILAR AIRCRAFT TYPES | 73*65 | |
| BAY-3 | 27°41'53.57456", 85°21'26.97864" | 1334.15 | B-747-400 AND SIMILAR AIRCRAFT TYPES | 73*65 | Cement Concrete PCN53/R/B/W/T |
| BAY-4 | 27°41'55.75516", 85°21'27.97049" | 1334.92 | B-747-400 AND SIMILAR AIRCRAFT TYPES | 73*65 | |
| BAY-5 | 27°41'57.73639", 85°21'29.33581" | 1335.58 | MD-11 AND SIMILAR AIRCRAFT TYPES | 73*61 | |
| BAY-6 | 27°41'59.60749", 85°21'30.16168" | 1335.97 | B-767-300 AND SIMILAR AIRCRAFT TYPES | 73*48 | |
| BAY-7 | 27°42'01.12960", 85°21'30.85642" | 1336.27 | B-757-200 AND SIMILAR AIRCRAFT TYPES | 73*39 | |
| BAY-8 | 27°42'02.51696", 85°21'31.48693" | 1336.48 | B-757-200 AND SIMILAR AIRCRAFT TYPES | 73*39 | |
| BAY-9 | 27°42'03.90524", 85°21'32.11647" | 1336.67 | B-757-200 AND SIMILAR AIRCRAFT TYPES | 73*34 | |
| BAY-10 | 27°42'05.18558", 85°21'33.04648" | 1336.58 | B-737-800 AND SIMILAR AIRCRAFT TYPES | 73*34 | |
| BAY-11 | 27°42'06.47867", 85°21'33.71799" | 1336.79 | A320/A319 AND SIMILAR AIRCRAFT TYPES | 73*34 | |

NOT IN SCALE

| AIRCRAFT STAND | COORDINATES( LAT, LONG.) | ELEVATION (M. AMSL) | AIRCRAFT TYPE | SURFACE & STRENGTH |
|---|---|---|---|---|
| BAY- R1 | 27°41'55" N , 085°21'50" E | 1335.027 | B777-200ER AND SIMILAR AIRCRAFT TYPES | RIGID PAVEMENT / DESIGN AIRCRAFT B777-200 ER |
| BAY- R2 | 27°41'57" N , 085°21'49" E | 1335.230 | B777-200ER AND SIMILAR AIRCRAFT TYPES | |
| BAY- R3 | 27°41'58" N , 085°21'48" E | 1335.399 | ATR- 72 AND SIMILAR AIRCRAFT TYPES | RIGID PAVEMENT / DESIGN AIRCRAFT ATR-72 |
| BAY- R4 | 27°41'59" N, 085°21'48" E | 1335.517 | ATR-72 AND SIMILAR AIRCRAFT TYPES | |

Scale: Not in scale

| S. N. | Aircraft Stand/Bay no | Aircraft Types | Nos |
|---|---|---|---|
| 1 | D–1 to D–8 | HS – 748 and equivalent aircraft types | 8 |
| 2 | D–9 to D–17 | DHC 6 and equivalent aircraft types | 9 |

**AERODROME GROUND MOVEMENT CHART-ICAO**

**APRON ELEV 4395 ft.**

**TWR 118.1**
**GND 121.9**
**ATIS 127.0**

**KATHMANDU, NEPAL**
**Tribhuvan Int'l**

SCALE 1:25000

85°21′ 85°21′

**Approach Lights**
High intensity Cat-I Precision LED Approach Light System at RWY 02

**RWY Light System**
High intensity bi-directional white-yellow, Red Yellow LED elevated edge lights of variable brilliance and High intensity bi-directional white-red LED insetcenter line lights of variable brilliance

**PAPI RWY 20 / 02**
High Intensity of variable brilliance (Angle 3.00$^0$)

**THR. Other Lights**
ABN, flood, obstructions

**AIRPORT OPERATING MINIMA**

TAKE OFF RWY 02-20

**RUNWAY DECLEARED DISTANCES**

| RWY | TORA | TODA | ASDA | LDA |
|---|---|---|---|---|
| 02 | 3074 | 3374 | 3074 | 2774 |
| 20 | 3074 | 3374 | 3074 | 3074 |

VOR Check Points: TWY A (27°42'20.41"N; 085°21'44.042"E)
TWY E (27°41'27.270"N; 085°21'18.489"E)

| | | | |
|---|---|---|---|
| TURBO Prop ACFT | 1 & 2 ENG | 1600M | VISIBILITY |
| | 3 & 4 ENG | 800M | |
| Jet / ACFT | 2 OR MORE ENG | 800M | |

# SLOPE: LONGITUDINAL PROFILES OF RWY

## RUNWAY 02/20 LONGITUDINAL SLOPE

# Aerodrome Obstacle Chart – ICAO

# Tribhuvan International Airport (VNKT)

**TO BE DEVELOP**

# TIA
# VISUAL AERODROME TRAFFIC CIRCUIT

# VISUAL AERODROME TRAFFIC CIRCUIT AT TIA

(FIG A)

# AERODROME TRAFFIC CIRCUIT RWY 02 FOR. ACFT WITH IAS LESS THAN 135 KTS, CIRCUIT ALTITUDE 1000 FT. ABOVE AERODROME LEVEL

(FIG. B1)

# AERODROME TRAFFIC CIRCUIT RWY 02 FOR. ACFT WITH IAS 135-180KTS CIRCUIT ALTITUDE 1500 FT. ABOVE AERODROME LEVEL

(FIG. B2)

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 20<br>DARKE 1A |
|---|---|---|---|

Coordinates are in WGS-84 system.

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Scale 1:300000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

## SID DARKE 1A RWY20

Departure turn limited to 180 KIAS maximum. Procedure Design Gradient (PDG) 8%.
Climb straight ahead and cross KTM at or above 4700 ft. At KTM turn right remaining within 4 DME arc. When crossing R270 KTM at or above 7500 ft, turn left to intercept outbound R288 KTM to DARKE (R288/D13.5 'KTM') at or above 10500 ft. Continue climb to MEA.

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 20<br>DARKE 1B |
|---|---|---|---|

Coordinates are in WGS-84 system.

**SID DARKE 1B RWY20**

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

**Scale 1:300000**

Nautical Miles: 0 1 2 4 6 8 10

Kilometers: 0 2.5 5 10 15 20

Departure turn limited to 180 KIAS maximum. Procedure Design Gradient (PDG) 6%.
Climb straight ahead and cross KTM at or above 4700 ft. At KTM turn right remaining within 4 DME arc. After crossing R040 KTM turn right inbound KTM at or above 7500 ft. and follow outbound R288 KTM to DARKE (R288/D13.5 'KTM') at or above 10500 ft. Continue climb to MEA.

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 02<br>DARKE 1C |
|---|---|---|---|

WGS 84 Coordinates

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Scale 1:300000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

## SID DARKE 1C RWY02

Departure turn limited to 180 KIAS maximum. Procedure Design Gradient (PDG) 6%.
Climb straight ahead to 2.5 DME KTM then make right turn inbound KTM at or above 7500 ft and follow outbound R288 KTM to DARKE (R288/ D13.5 'KTM') at or above 10500 ft. Continue climb to MEA.

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 02<br>DARKE 1D |
|---|---|---|---|

WGS 84 Coordinates

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Scale 1:300000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

## SID DARKE 1D RWY02

Departure turn limited to 180 KIAS maximum. Procedure Design Gradient (PDG) 6%.
Climb straight ahead to 3 DME KTM then make left turn ito intercept 4 DME arc. When crossing R310 KTM at or above 7500 ft. turn right to intercept outbound R288 KTM to DARKE (R288/ D13.5) at or above 10500 ft. Continue climb to MEA.

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 02<br>DARKE 1E |
|---|---|---|---|

Coordinates are in WGS-84 system

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Scale 1:300000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

## SID DARKE 1E RWY02

Departure turn limited to 180 KIAS maximum. Procedure Design Gradient (PDG) 6%.
Climb straight ahead to 3 DME KTM then make left turn ito intercept 4 DME arc. When crossing R310 KTM turn left inbound KTM, climb on R038 KTM to 2.2 DME, turn left to intercept 4 DME arc. At R310 KTM turn right to intercept outbound R288KTM to DARKE (R288/13.5 DME) at or above 10500 ft. Continue climb to MEA.

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 20<br>IGRIS 1A |
|---|---|---|---|

Coordinates are in WGS-84 system.

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Scale 1:300000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

**SID IGRIS 1A RWY20**

Departure turn limited to 180 KIAS maximum. Procedure Design Gradient (PDG) 6%.
Climb straight ahead and cross KTM at or above 4700 ft. At KTM turn right remaining within 4 DME arc. When crossing R084 KTM at or above 7500 ft. turn left to intercept outbound R105 KTM to IGRIS (R105/15 DME) at or above 10500 ft. Continue climb to MEA.

| STANDARD DEPARTURE CHART (SID) - ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>RWY 02<br>IGRIS 1B |
|---|---|---|---|

Coordinates are in WGS-84 system

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Scale 1:300000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

## SID IGRIS 1B RWY02

Departure turn limited to 180 KIAS . Procedure Design Gradient (PDG) 8%.
Climb straight ahead. At 2.5 DME KTM turn left remaining within 5 DME arc. When crossing R320 turn left to KTM at or above 7500 ft. and follow outbound R105 KTM to IGRIS (R105/15 DME) at or above 10500 ft. Continue climb to MEA.

| STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - I CAO<br>SIMARA ARRIVAL<br>ROMEO ARRIVAL | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500'<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>STAR |
|---|---|---|---|

| STAR | ROUTING | ALTITUDE |
|---|---|---|
| SIMARA ARRIVAL | From 'SMR' proceed via R052 SMR to RATAN (R202/D24 'KTM') and intercept R202 'KTM' inbound to GURAS. | Cross 'SMR' at FL 150 or as instructed by ATC and 11500 ft over GURAS ( R202/D17 'KTM'). |
| ROMEO ARRIVAL | From ROMEO turn right to intercept R202 KTM inbound to RATAN (R202/D24 'KTM') and proceed to GURAS. | Cross ROMEO at FL 150 or as instructed by ATC and 11500 ft over GURAS ( R202/D17 'KTM'). |

| STANDARD TERMINAL ARRIVAL ROUTE<br>BIDUR ARRIVAL<br>NAYAK ARRIVAL | AD ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500'<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>STAR |
|---|---|---|---|

| STAR | ROUTING | ALTITUDE |
|---|---|---|
| BIDUR ARRIVAL | From BIDUR (R293/D25 KTM) track on heading 121° to GAJUR (R288/D16 KTM). Then intercept R288 KTM for KTM VOR - A Approach. | From BIDUR aircraft can descend to cross GAJUR at 10500 ft or as instructed by ATC. |
| NAYAK ARRIVAL | From NAYAK (R270/D25 KTM) turn left and track on heading 064° to GAJUR (R288/D16 KTM). Then turn right to intercept R288 KTM for KTM VOR - A Approach. | From NAYAK aircraft can descend to cross GAJUR at 10500 ft or as instructed by ATC. |

Coordinates are in WGS-84 system.

Scale 1:350000
Nautical Miles
0 1 2 4 6 8 10
0 2.5 5 10 15 20
Kilometers

| INSTRUMENT APPROACH CHART - ICAO | AERODROME ELEV 4395' HEIGHTS RELATED TO THR-RWY 02 - ELEV 4320' VARIATION 0° W (2010) | APP 120.6 MHZ TWR 118.1 MHZ GND 121.9 MHZ | KATHMANDU/NEPAL Tribhuwan International Airport VOR RWY 02 VOR 'KTM' 113.2 |
|---|---|---|---|

| RECOMMENDED PROFILE | DIST BY DME | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 0.9 |
|---|---|---|---|---|---|---|---|---|---|---|
| Final Gradient<br>FAF To 3 DME 9.3% (5.5°) (565 FT/NM)<br>3 DME to THR 5.2% (3.0°) (316 FT/NM) | ALT<br>(HGT) | 8900<br>(4582) | 8340<br>(4022) | 7770<br>(3452) | 7210<br>(2892) | 6640<br>(2322) | 6080<br>(1762) | 5510<br>(1192) | 5200<br>(882) | 4950<br>(632) |

**Missed Approach:**

**Climb straight ahead. At 2 DME on R022 KTM turn right to intercept 4 DME arc (not to exceed 5 DME). Crossing R070 KTM turn right and intercept R105 inbound to 'KTM' VOR at or above 7500 ft. Follow R-288 outbound to DARKE (D13.5/R-288) at or above 10500 ft.**

***Missed approach turn limited to 185 kt IAS Maximum. Minimum Missed approach climb gradient is 5%.***

| CATEGORY | | A | B | | C | D | |
|---|---|---|---|---|---|---|---|
| | | OCA (OCH) | VISIBILITY | OCA (OCH) | VISIBILITY | OCA (OCH) | VISIBILITY |
| Straight-in | Full | 4950 (632) | 1600 m | 4950 (632) | 2800 m | 4950 (632) | 3200 m |
| | ALS Out | | 2400 m | | 3600 m | | 4000 m |
| Circling | | 4950 (632) | 2400 m | NOT AUTHORIZED | | | |
| | | CIRCLING NOT AUTHORIZED AT NIGHT | | | | | |

| Ground Speed (Knots) | 60 | 90 | 120 | 150 | 180 |
|---|---|---|---|---|---|
| D3 to MAPt : 3 NM (min:sec) | 3:00 | 2:00 | 1:30 | 1:12 | 1:00 |
| Rate of descent (ft/min) at 5.2% | 316 | 474 | 632 | 790 | 948 |

***Note: From 13D to 9D, aircraft may descend with constant descent gradient of 3.7% .***

** Descent gradient from D9 to D3 does not meet standard criteria.*

| INSTRUMNET APPROACH CHART-ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>VOR - B<br>VOR 'KTM' 113.2 |
|---|---|---|---|

## Missed Approach

**At 2.0 DME, climb straight ahead to KTM.**
**Then proceed via outbound R288 to**
**'DARKE' (R288/D13.5). Reach 'DARKE'**
**at or above 10500' and join holding pattern.**

**Elev - RWY-02 4320'**
**AP ELEV 4395'**

| DISTANCE (DME) | 15 | 10 | 6.5 | 4 | 3 | 2 |
|---|---|---|---|---|---|---|
| Altitude (ft) | 10500 | 9500 | 7500 | 6600 | 6100 | 5600 |
| Ground Speed (KT) | 60 | 90 | 120 | 150 | 180 | |
| Rate of Descent (ft/min) @ 6.9% | 420' | 630' | 840' | 1050' | 1260' | |

| AIRPORT OPERATING MINIMA | DAY | | | | NIGHT | |
|---|---|---|---|---|---|---|
| | CAT A,B | | CAT C | | CAT A,B | |
| | OCA (OCH) | VISIBILITY | OCA (OCH) | VISIBILITY | OCA (OCH) | VISIBILITY |
| CIRCLE TO LAND | 5600 (1285) | 3700 m | 5800 (1485) | 3700 m | 5600 (1285) | 5000 m |

- ACFT must establish visual contact by 2 DME.
- ACFT shall execute visual manoeuvre maintaining 5600 ft AMSL and remaining within 2.5 D arc within the quadrant of R105 and R202 and within 3 DME for rest sector.
- When no traffic from 'GURAS'
- During night, only from RWY 02

| INSTRUMENT APPROACH CHART-ICAO | AERODROME ELEV 4395'<br>TRANS LEVEL FL150<br>TRANS ALT 13500<br>VAR 0° W (2010) | APP 120.6 MHZ<br>TWR 118.1 MHZ<br>GND 121.9 MHZ | KATHMANDU/NEPAL<br>Tribhuwan International Airport<br>VOR- A<br>VOR 'KTM' 113.2 |
|---|---|---|---|

**Missed Approach:**

At 2.0 DME climb straight ahead to 'KTM'. Then proceed via outbound R105 to reach IGRIS HP (R105/D15 'KTM') at or above 10500 ft and join holding pattern.

**RWY 02 ELEV 4320 ft**
**AP ELEV 4395 ft**

| AIRPORT OPERATING MINIMA | DAY | | NIGHT | |
|---|---|---|---|---|
| | CAT A,B | | CAT A,B | |
| | OCA (OCH) | VISIBILITY | OCA (OCH) | VISIBILITY |
| CIRCLE TO LAND | 5600 (1285) | 3700 m | 5600 (1285) | 5000 m |

- ACFT must establish visual contact by 2 DME.
- ACFT shall execute visual manoeuvre maintaining 5600 ft AMSL and remaining WI 2.5 DME within the quadrant of R105 and R202 and within 3 DME for rest sector.
- Only from RWY 02 during night

**This procedure requires aircraft to maintain minimum climb gradient of 5.8% in the missed approach.**

| DISTANCE (DME) | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
|---|---|---|---|---|---|---|---|---|---|
| Altitude (ft) 6.3% | 8640' | 8260' | 7880' | 7500' | 7120' | 6740' | 6360' | 5980' | 5600' |
| Ground Speed (KT) | 90 | 110 | 120 | 130 | 140 | 150 | 160 | | |
| Rate of Descent (ft/min) | 570' | 697' | 760' | 823' | 887' | 950' | 1013' | | |

# RNP AR (Authorization Required) procedure at Tribhuvan International Airport (VNKT) [Effective from 19 MAY 2022]

## 1. INTRODUCTION

1.1 The RNP AR APCH and RNP1 STARs are designed for VNKT in accordance with the criteria as stipulated in the ICAO PANS-OPS (DOC 8168) Vol. II and ICAO RNP AR Manual (DOC 9905). However, for RNP AR Departure, besides the documents mentioned above, the criteria used were developed based on FAA Order 8260.58B provisions too.

1.2 A full arrival, departures, approach and missed approach procedures have been designed for Runway 02/20 by NAVBLUE (formerly named AIRBUS PROSKY), an Airbus Company whose logo will appear on the RNP AR Procedure Charts.

1.3 The RNP AR Approach and Departure Procedures at VNKT are designed to enhance the overall safety of the aircraft operation by facilitating the aircraft energy management and to improve the airport access, while taking into account ATC constraints.

## 2. APPROVED USERS, EQUIPMENT AND OPERATIONS

2.1 For the VNKT RNP AR Approach and Departure Procedures, the operators shall ensure that they hold all necessary operational approvals as part of the Operations Specifications of the AOC from its authority including the Baro-VNAV Approval in order to conduct the RNP AR Approach and Departure procedures to and from VNKT.

2.2 The operator must have a Special Authorization from its authority in order to use the RNP AR Approaches. (Ref to EASAIR-OPS, FAA AC 90-101A Change 1 or equivalent).

2.3 In order to get authorization for RNP AR Departure, the operator must have acquired RNP AR APCH authorization from its authority and meet some additional requirements as mandated by such authority.

2.3 The operators shall seek approval or authorization from Civil Aviation Authority of Nepal to conduct VNKT RNP AR Approach and departure procedures at Kathmandu.

2.4 The operator is responsible of conducting a Flight Operational Safety Assessment (FOSA) including the Flight Simulation of the procedure. For some procedures, deviations to criteria exist, and mitigation means have to be proposed by the operator as part of their FOSA activities. Some justifications are based on validation activities to be conducted during the FOSA by the airlines part of their RNP AR Operational Approval.

2.5 The RNP AR approach and departure procedures require a navigation accuracy down to RNP 0.3 and RF-leg capability.

2.6 The vertical guidance is based on Baro-VNAV with GNSS and requires RNAV equipment which uses barometric altimeter input.

2.7 There are 15 RNP STARs based on the use of RNAV system with RNP 1.0 navigation specification and are designed to be used only in conjunction with corresponding RNP AR approach procedures.

***Note: This information must be included in Company Route Manuals.***

**3**. NAMING OF RNP 1 STAR and RNP AR APPROACH/DEPARTURE PROCEDURES

There are fifteen RNP 1 STARs, six RNP AR SIDs and three RNP AR approach procedure to Kathmandu runway 02 and 20 are named in accordance with the ICAO naming convention as tabulated below.

<table>
<tr><th>RWY</th><th>SIDs</th><th>STAR</th><th>RNP AR Approach</th></tr>
<tr><td>02</td><td>DARKE 1F<br>IGRIS 1C<br>IGRIS 1D</td><td rowspan="2">SIMRA 3R<br>ROMEO 3R<br>IGRIS 2R<br>DOLAL 2R<br>DAMIK 1R<br>KIMTI 2R<br>MUNAL 2R<br>KIMTI 1G<br>AHALE 1G<br>LALBA 1G<br>SIMRA 1G<br>ROMEO 1G<br>MANKA 1D<br>NARAN 1D<br>SIMRA 1D</td><td>RNP Z RWY02 (AR)<br>• via RATAN<br>• via DANFE<br>RNP Y RWY02 (AR)<br>• via DARKE<br>• via IGRIS</td></tr>
<tr><td>20</td><td>DARKE 1G<br>DARKE 1H<br>IGRIS 1E</td><td>RNP RWY20 (AR)<br>• via DANFE<br>• via DARKE<br>• via IGRIS<br>• via RATAN</td></tr>
</table>

**4. RAIM-CHECK**

During flight planning or before dispatching the aircraft, the pilot shall ensure a RAIM check with a mask angle appropriate to the terrain (Minimum mask angle 5°)

**5. LIMITATIONS OF THE PROCEDURES**

The procedure is designed for a temperature down to -10°C for RNP AR APCH procedures. (Temperature correction of the barometric altimeter is not required.)

**6. RNP CAPABILITY LOST**

If the RNP capability is lost, ATC shall be informed as soon as possible the alternate course of action from the pilots of the concerned aircraft.

**7. LIST OF WAYPOINTS**

| W/P ID | W/P Type | Latitude | Longitude |
|---|---|---|---|
| AHALE | ICAO | 27°11'48.0"N | 086°07'05.0"E |
| BELOM | ICAO | 27°42'18.2"N | 085°12'44.2"E |
| BIRUP | ICAO | 27°35'54.4"N | 085°18'36.7"E |
| DANFE | ICAO | 27°26'36.0"N | 084°42'38.0"E |
| DAMIK | ICAO | 27°26'24.4"N | 085°43'18.4"E |
| DARKE | ICAO | 27°44'41.0"N | 085°06'18.0"E |
| DOLAL | ICAO | 27°34'01.2"N | 085°54'22.1"E |
| DOVAM | ICAO | 27°33'46.5"N | 085°15'14.0"E |
| GURAS | ICAO | 27°24'36.0"N | 085°13'46.0"E |
| IGRIS | ICAO | 27°36'32.0"N | 085°37'19.0"E |
| KIMTI | ICAO | 27°29'48.0"N | 086°16'04.0"E |

| | | | |
|---|---|---|---|
| KT414 | ICAO | 27°43'06.3"N | 085°22'08.8"E |
| KT416 | ADHP | 27°44'08.3"N | 085°23'09.4"E |
| KT418 | ADHP | 27°44'38.5"N | 085°24'07.9"E |
| KT419 | ADHP | 27°41'32.7"N | 085°28'07.0"E |
| KT421 | ADHP | 27°40'39.7"N | 085°27'25.6"E |
| KT422 | ADHP | 27°38'10.1"N | 085°24'23.9"E |
| KT424 | ADHP | 27°37'14.5"N | 085°22'41.8"E |
| KT426 | ADHP | 27°37'10.0"N | 085°19'26.8"E |
| KT428 | ADHP | 27°43'08.3"N | 085°23'03.3"E |
| KT430 | ADHP | 27°41'20.4"N | 085°24'45.4"E |
| KT442 | ADHP | 27°31'17.9"N | 085°13'46.3"E |
| KT444 | ADHP | 27°28'36.3"N | 085°12'53.1"E |
| KT446 | ADHP | 27°26'20.7"N | 085°12'31.2"E |
| KT448 | ADHP | 27°23'50.3"N | 085°12'31.2"E |
| KT450 | ADHP | 27°20'01.1"N | 085°11'41.2"E |
| KT452 | ADHP | 27°23'47.7"N | 085°06'36.9"E |
| KT491 | ADHP | 27°40'43.9"N | 085°21'04.0"E |
| KT493 | ADHP | 27°44'08.7"N | 085°17'20.6"E |
| KT494 | ADHP | 27°45'15.1"N | 085°20'42.5"E |
| KT520 | ADHP | 27°38'11.0"N | 085°19'54.5"E |
| KT522 | ADHP | 27°35'43.2"N | 085°17'29.0"E |
| KT524 | ADHP | 27°34'41.8"N | 085°16'06.1"E |
| KT528 | ADHP | 27°30'09.5"N | 085°14'20.0"E |
| KT530 | ADHP | 27°28'40.4"N | 085°14'46.9"E |
| KT532 | ADHP | 27°26'30.1"N | 085°14'37.9"E |
| KT534 | ADHP | 27°24'23.8"N | 085°11'35.5"E |
| KT536 | ADHP | 27°23'06.8"N | 085°01'01.0"E |
| KT538 | ADHP | 27°22'05.7"N | 084°52'42.5"E |
| KT540 | ADHP | 27°25'03.8"N | 084°44'04.7"E |
| KT546 | ADHP | 27°40'06.2"N | 085°20'46.8"E |
| KT550 | ADHP | 27°43'15.4"N | 085°17'36.8"E |
| KT552 | ADHP | 27°43'04.3"N | 085°19'33.7"E |
| KT554 | ADHP | 27°39'33.0"N | 085°27'03.7"E |
| KT560 | ADHP | 27°43'31.6"N | 085°18'42.0"E |
| KT562 | ADHP | 27°39'14.1"N | 085°22'40.4"E |
| KT564 | ADHP | 27°38'46.2"N | 085°16'53.3"E |
| KT566 | ADHP | 27°40'22.0"N | 085°15'32.3"E |
| KT590 | ADHP | 27°42'41.1"N | 085°21'57.3"E |
| KT592 | ADHP | 27°39'35.3"N | 085°27'38.6"E |
| KT632 | ADHP | 27°14'31.1"N | 085°09'12.4"E |
| KT638 | ADHP | 27°10'08.2"N | 085°02'35.9"E |
| KT640 | ADHP | 27°07'03.7"N | 085°19'08.3"E |
| KT642 | ADHP | 27°07'03.7"N | 085°23'37.3"E |
| KT644 | ADHP | 27°08'46.7"N | 085°41'09.0"E |
| KT646 | ADHP | 27°16'08.5"N | 085°53'19.6"E |
| KT656 | ADHP | 27°28'27.3"N | 085°37'18.9"E |
| KT658 | ADHP | 27°11'05.4"N | 085°21'11.4"E |
| KT660 | ADHP | 27°32'47.4"N | 085°50'45.9"E |
| KT664 | ADHP | 27°10'16.1"N | 085°28'19.8"E |

| | | | |
|---|---|---|---|
| KT668 | ADHP | 27°13'35.5"N | 085°27'27.8"E |
| KT670 | ADHP | 27°45'20.6"N | 085°00'21.4"E |
| KT672 | ADHP | 27°41'55.2"N | 084°53'24.7"E |
| KT674 | ADHP | 27°32'30.3"N | 084°51'13.2"E |
| KT676 | ADHP | 27°28'28.6"N | 084°52'35.7"E |
| KT680 | ADHP | 27°44'13.2"N | 084°51'46.2"E |
| KT684 | ADHP | 27°52'53.2"N | 084°43'58.5"E |
| KT802 | ADHP | 27°44'25.3"N | 085°24'20.6"E |
| KT804 | ADHP | 27°44'25.3"N | 085°25'28.0"E |
| KT806 | ADHP | 27°42'53.5"N | 085°28'03.7"E |
| KT808 | ADHP | 27°41'54.7"N | 085°28'17.0"E |
| KT810 | ADHP | 27°38'14.5"N | 085°24'08.5"E |
| KT812 | ADHP | 27°38'32.2"N | 085°22'32.1"E |
| KT814 | ADHP | 27°39'20.1"N | 085°20'25.9"E |
| KT820 | ADHP | 27°41'02.7"N | 085°28'56.3"E |
| KT822 | ADHP | 27°37'37.2"N | 085°33'13.9"E |
| KT830 | ADHP | 27°38'14.9"N | 085°21'02.6"E |
| KT832 | ADHP | 27°44'40.3"N | 085°24'39.4"E |
| KT834 | ADHP | 27°41'01.8"N | 085°27'44.0"E |
| KT840 | ADHP | 27°45'22.2"N | 085°00'15.7"E |
| KT842 | ADHP | 27°32'30.7"N | 084°51'08.9"E |
| KT845 | ADHP | 27°42'53.7"N | 084°41'35.2"E |
| KT855 | ADHP | 27°53'57.7"N | 084°44'30.7"E |
| KT890 | ADHP | 27°45'24.0"N | 085°02'20.6"E |
| KT892 | ADHP | 27°45'23.7"N | 084°53'19.5"E |
| KT894 | ADHP | 27°43'24.9"N | 084°47'24.4"E |
| KT896 | ADHP | 27°39'19.3"N | 084°42'09.1"E |
| KT898 | ADHP | 27°28'08.2"N | 084°41'11.3"E |
| KT901 | ADHP | 27°40'16.0"N | 085°20'51.3"E |
| KT903 | ADHP | 27°39'19.9"N | 085°17'18.2"E |
| KT905 | ADHP | 27°44'02.8"N | 085°17'46.1"E |
| KT906 | ADHP | 27°45'07.8"N | 085°20'22.7"E |
| KT908 | ADHP | 27°43'08.4"N | 085°26'12.2"E |
| KT910 | ADHP | 27°37'46.2"N | 085°22'12.7"E |
| KT911 | ADHP | 27°38'07.5"N | 085°19'13.3"E |
| KT912 | ADHP | 27°38'31.7"N | 085°19'15.0"E |
| KT914 | ADHP | 27°42'01.3"N | 085°13'20.7"E |
| KT915 | ADHP | 27°41'44.4"N | 085°13'27.9"E |
| KT916 | ADHP | 27°42'02.4"N | 085°12'56.5"E |
| KT918 | ADHP | 27°42'45.9"N | 085°11'22.8"E |
| KT920 | ADHP | 27°42'13.0"N | 085°26'38.7"E |
| KT922 | ADHP | 27°37'56.8"N | 085°32'00.5"E |
| KT940 | ADHP | 27°35'40.2"N | 085°40'33.1"E |
| KT942 | ADHP | 27°34'56.3"N | 085°42'38.6"E |
| KT944 | ADHP | 27°31'49.9"N | 085°49'42.4"E |
| KT946 | ADHP | 27°30'35.7"N | 085°55'08.4"E |
| KT950 | ADHP | 27°32'10.2"N | 085°46'44.0"E |
| KT952 | ADHP | 27°23'26.5"N | 085°50'08.6"E |
| KT955 | ADHP | 27°16'26.0"N | 085°49'40.7"E |

| | | | |
|---|---|---|---|
| KT965 | ADHP | 27°24'28.1"N | 085°54'26.9"E |
| KTC01 | ADHP | 27°41'33.3"N | 085°25'05.3"E |
| KTC02 | ADHP | 27°36'22.1"N | 085°02'20.5"E |
| KTC09 | ADHP | 27°15'50.3"N | 085°17'03.4"E |
| KTC10 | ADHP | 27°28'28.8"N | 085°23'05.6"E |
| KTC21 | ADHP | 27°27'47.2"N | 085°11'04.7"E |
| KTC22 | ADHP | 27°31'11.7"N | 085°18'40.8"E |
| KTC23 | ADHP | 27°31'47.7"N | 085°19'58.8"E |
| KTC24 | ADHP | 27°40'03.0"N | 085°14'43.5"E |
| KTC29 | ADHP | 27°37'22.4"N | 084°53'20.1"E |
| KTC30 | ADHP | 27°33'17.3"N | 084°48'04.7"E |
| KTC31 | ADHP | 27°30'32.3"N | 084°51'24.1"E |
| KTC32 | ADHP | 27°40'59.2"N | 085°18'19.6"E |
| KTC33 | ADHP | 27°48'24.9"N | 085°32'19.7"E |
| KTC34 | ADHP | 27°36'44.9"N | 085°10'08.5"E |
| KTC35 | ADHP | 27°40'35.8"N | 085°19'37.1"E |
| KTC36 | ADHP | 27°42'18.8"N | 085°24'20.6"E |
| KTC37 | ADHP | 27°42'29.3"N | 085°25'31.8"E |
| KTC38 | ADHP | 27°41'29.2"N | 085°20'56.9"E |
| KTC39 | ADHP | 27°40'52.7"N | 085°20'02.4"E |
| KTC40 | ADHP | 27°46'30.0"N | 085°31'39.5"E |
| KTC41 | ADHP | 27°29'19.0"N | 085°21'19.4"E |
| KTC42 | ADHP | 27°26'20.4"N | 085°21'30.7"E |
| KTC43 | ADHP | 27°23'49.8"N | 085°01'07.8"E |
| KTC44 | ADHP | 27°30'30.7"N | 085°05'35.4"E |
| KTC45 | ADHP | 27°41'54.9"N | 085°25'28.0"E |
| KTC46 | ADHP | 27°41'55.0"N | 085°24'09.3"E |
| KTC47 | ADHP | 27°42'10.6"N | 085°24'16.8"E |
| KTC48 | ADHP | 27°43'23.1"N | 085°35'10.0"E |
| KTC49 | ADHP | 27°24'08.5"N | 085°36'41.0"E |
| KTC50 | ADHP | 27°41'03.3"N | 085°18'39.7"E |
| KTC51 | ADHP | 27°41'34.1"N | 085°19'04.1"E |
| KTC52 | ADHP | 27°41'31.0"N | 085°21'54.7"E |
| KTC63 | ADHP | 27°42'37.1"N | 085°55'41.7"E |
| KTC66 | ADHP | 27°41'37.9"N | 085°22'12.7"E |
| KTC67 | ADHP | 27°45'09.1"N | 085°34'25.5"E |
| KTC69 | ADHP | 27°15'05.1"N | 085°19'08.2"E |
| KTC70 | ADHP | 27°17'04.7"N | 085°34'51.3"E |
| KTC71 | ADHP | 27°42'15.6"N | 085°21'03.3"E |
| KTC72 | ADHP | 27°46'44.9"N | 085°36'17.8"E |
| KTC73 | ADHP | 27°33'32.1"N | 085°06'58.8"E |
| KTC74 | ADHP | 27°42'44.2"N | 085°22'12.7"E |
| KTC75 | ADHP | 27°35'27.0"N | 085°01'54.3"E |
| KTC76 | ADHP | 27°17'07.8"N | 085°01'55.0"E |
| KTC77 | ADHP | 27°35'25.2"N | 085°01'59.2"E |
| KTC78 | ADHP | 27°41'42.3"N | 085°18'21.4"E |
| LALBA | ICAO | 26°56'50.0"N | 085°48'23.0"E |
| LIKHU | ICAO | 27°19'52.0"N | 086°12'12.0"E |
| MANKA | ICAO | 28°00'28.0"N | 084°29'07.0"E |

| | | | |
|---|---|---|---|
| MUNAL | ICAO | 27°07'03.0"N | 085°34'50.0"E |
| NARAN | ICAO | 27°40'46.0"N | 084°25'47.0"E |
| RATAN | ICAO | 27°18'06.0"N | 085°10'49.0"E |
| ROMEO | ICAO | 27°03'12.0"N | 085°04'08.0"E |
| RW02 | ADHP | 27°41'02.0"N | 085°21'12.2"E |
| RW20 | ADHP | 27°42'25.6"N | 085°21'50.2"E |
| SARMA | ICAO | 27°38'50.3"N | 085°28'59.3"E |
| SIMRA | ICAO | 27°09'51.0"N | 084°58'56.0"E |
| SEDMU | ICAO | 27°18'28.3"N | 085°31'49.5"E |

## 8. STARS CODING TABLE

IGRIS 2R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| IGRIS | IF | - | - | - | - | +12000 | -250 | 1 | - | |
| KT656 | TF | - | - | 180 | 8.1 | - | - | 1 | - | |
| SEDMU | RF | - | R | 232 | 11.5 | +10800 | - | 1 | 12.7 | KTC10 |
| KT658 | TF | - | - | 232 | 12.0 | - | -250 | 1 | - | |
| RATAN | RF | - | R | 022 | 15.7 | +10500 | -250 | 1 | 6.0 | KTC09 |

DOLAL 2R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| DOLAL | IF | - | - | - | - | +15000 | - | 1 | - | - |
| DAMIK | TF | - | - | 232 | 12.4 | +12400 | - | 1 | - | - |
| SEDMU | TF | - | - | 232 | 12.9 | +10800 | - | 1 | - | - |
| KT658 | TF | - | - | 232 | 12.0 | - | -250 | 1 | - | - |
| RATAN | RF | - | R | 022 | 15.7 | +10500 | -250 | 1 | 6.0 | KTC09 |

DAMIK 1R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| DAMIK | IF | - | - | - | - | +12400 | - | 1 | - | |
| SEDMU | TF | - | - | 232 | 12.9 | +10800 | - | 1 | - | |
| KT658 | TF | - | - | 232 | 12.0 | - | -250 | 1 | - | |
| RATAN | RF | - | R | 022 | 15.7 | +10500 | -250 | 1 | 6.0 | KTC09 |

KIMTI 2R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| KIMTI | IF | - | - | - | - | +17000 | - | 1 | - | - |
| KT646 | TF | - | - | 236 | 24.4 | - | - | 1 | - | - |
| KT644 | TF | - | - | 236 | 13.1 | - | - | 1 | - | - |
| MUNAL | RF | - | R | 270 | 6.0 | - | - | 1 | 10.0 | KTC70 |
| KT642 | TF | - | - | 270 | 10.0 | - | - | 1 | - | - |
| KT640 | TF | - | - | 270 | 4.0 | - | -270 | 1 | - | - |
| RATAN | RF | - | R | 022 | 15.7 | +10500 | -250 | 1 | 8.0 | KTC69 |

MUNAL 2R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| MUNAL | IF | - | - | - | - | +10500 | - | 1 | - | - |
| KT642 | TF | - | - | 270 | 10.0 | - | - | 1 | - | - |
| KT640 | TF | - | - | 270 | 4.0 | - | -270 | 1 | - | - |
| RATAN | RF | - | R | 022 | 15.7 | +10500 | -250 | 1 | 8.0 | KTC69 |

ROMEO 3R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| ROMEO | IF | - | - | - | - | - | -270 | 1 | - | - |
| KT632 | TF | - | - | 022 | 12.2 | - | - | 1 | - | - |
| RATAN | TF | - | - | 022 | 3.8 | +10500 | -250 | 1 | - | - |

SIMRA 3R STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| SIMRA | IF | - | - | - | - | - | -270 | 1 | - | - |
| KT638 | TF | - | - | 085 | 3.3 | - | - | 1 | - | - |
| KT632 | RF | - | L | 022 | 7.7 | - | - | 1 | 7.0 | KTC76 |
| RATAN | TF | - | - | 022 | 3.8 | +10500 | -250 | 1 | - | - |

KIMTI 1G STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| KIMTI | IF | - | - | - | - | +17000 | - | 1 | - | - |
| KT660 | TF | - | - | 278 | 22.7 | +12400 | -250 | 1 | - | - |
| IGRIS | TF | - | - | 287 | 12.5 | +11800 | -250 | 1 | - | - |

AHALE 1G STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| AHALE | IF | - | - | - | - | - | - | 1 | - | - |
| KT955 | TF | - | - | 287 | 16.2 | - | - | 1 | - | - |
| KT660 | TF | - | - | 003 | 16.3 | +12400 | -250 | 1 | - | - |
| IGRIS | TF | - | - | 287 | 12.5 | +11800 | -250 | 1 | - | - |

LALBA 1G STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| LALBA | IF | - | - | - | - | - | - | 1 | - | - |
| KT955 | TF | - | - | 003 | 19.6 | - | - | 1 | - | - |
| KT660 | TF | - | - | 003 | 16.3 | +12400 | -250 | 1 | - | - |
| IGRIS | TF | - | - | 287 | 12.5 | +11800 | -250 | 1 | - | - |

ROMEO 1G STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| ROMEO | IF | - | - | - | - | - | - | 1 | - | - |
| KT664 | TF | - | - | 072 | 22.7 | - | - | 1 | - | - |
| KT955 | TF | - | - | 072 | 20.0 | - | - | 1 | - | - |
| KT660 | TF | - | - | 003 | 16.3 | +12400 | -250 | 1 | - | - |
| IGRIS | TF | - | - | 287 | 12.5 | +11800 | -250 | 1 | - | - |

SIMRA 1G STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| SIMRA | IF | - | - | - | - | - | - | 1 | - | - |
| KT668 | TF | - | - | 082 | 25.7 | - | - | 1 | - | - |
| KT955 | TF | - | - | 082 | 20.0 | - | - | 1 | - | - |
| KT660 | TF | - | - | 003 | 16.3 | +12400 | -250 | 1 | - | - |
| IGRIS | TF | - | - | 287 | 12.5 | +11800 | -250 | 1 | - | - |

MANKA 1D STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| MANKA | IF | - | - | - | - | +11500 | - | 1 | - | - |
| KT684 | TF | - | - | 120 | 15.2 | - | - | 1 | - | - |
| DARKE | TF | - | - | 112 | 21.4 | +10500 | -250 | 1 | - | - |

NARAN 1D STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| NARAN | IF | - | - | - | - | - | - | 1 | - | - |
| KT680 | TF | - | - | 081 | 23.3 | - | - | 1 | - | - |
| KT670 | TF | - | - | 082 | 7.7 | - | -270 | 1 | - | - |
| DARKE | RF | - | R | 113 | 5.4 | +10500 | -250 | 1 | 10.0 | KTC77 |

SIMRA 1D STAR CODING TABLE

| W/P ID | PT | Fly over | TD | CRS (°) mag | DIST NM | ALT FT | SPD kt | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|
| SIMRA | IF | - | - | - | - | - | -270 | 1 | - | - |
| KT676 | TF | - | - | 343 | 19.4 | - | - | 1 | - | - |
| KT674 | TF | - | - | 343 | 4.2 | - | - | 1 | - | - |
| KT672 | RF | - | R | 040 | 10.0 | - | - | 1 | 10.0 | KTC77 |
| KT670 | RF | - | R | 082 | 7.2 | - | -270 | 1 | 10.0 | KTC77 |
| DARKE | RF | - | R | 113 | 5.4 | +10500 | -250 | 1 | 10.0 | KTC77 |

## 9. HOLDING PROCEDURE CODING TABLE

| Region Code | ICAO Code | W/P ID / Name | Inbound CRS Val (°) | TD | Inbound time val | ALT MIN | ALT MAX | SPD LMT kt | Magnetic CRS val(°) |
|---|---|---|---|---|---|---|---|---|---|
| VNKT | VN | RATAN | 022 | L | 60s | 10500ft | FL190 | 230 | 022 |
| VNKT | VN | MUNAL | 270 | L | 60s | 10500ft | FL190 | 230 | 270 |
| VNKT | VN | DANFE | 140 | L | 60s | 10500ft | FL190 | 230 | 140 |
| VNKT | VN | IGRIS | 287 | L | 60s | 11800ft | 13500ft | 230 | 287 |
| VNKT | VN | DARKE | 112 | L | 60s | 9500ft | 13500ft | 230 | 112 |

**10. APPROACH CODING TABLE**

**RNP Z RWY 02 (AR)**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Via DANFE | | | | | | | | | | | | |
| DANFE | IF | - | - | - | - | - | +10500 | -250 | - | - | - | - |
| KT540 | TF | - | - | 140 | - | 2.0 | - | - | - | 0.3 | - | - |
| KT538 | RF | - | L | 082 | - | 8.6 | - | - | - | 0.3 | 8.5 | KTC31 |
| KT536 | TF | - | - | 082 | - | 7.5 | +10500 | - | - | 0.3 | - | - |
| KT534 | TF | - | - | 082 | - | 9.5 | - | -200 | - | 0.3 | - | - |
| KT532 | RF | - | L | 022 | - | 3.6 | - | - | - | 0.3 | 3.4 | KTC21 |
| KT530 | RF | - | L | 345 | - | 2.2 | @8700 | -170 | - | 0.3 | 3.4 | KTC21 |
| Via RATAN | | | | | | | | | | | | |
| RATAN | IF | - | - | - | - | - | +10500 | -250 | - | - | - | - |
| GURAS | TF | - | - | 022 | - | 7.0 | - | - | - | 0.3 | - | - |
| KT532 | TF | - | - | 022 | - | 2.0 | - | -200 | - | 0.3 | - | - |
| KT530 | RF | - | L | 345 | - | 2.2 | @8700 | -170 | - | 0.3 | 3.4 | KTC21 |
| Final and missed approach | | | | | | | | | | | | |
| KT530 | IF | - | - | - | - | - | @8700 | -170 | | | - | - |
| KT528 | TF | - | - | 345 | - | 1.5 | - | - | -2.8 | 0.3 | - | - |
| DOVAM | RF | - | R | 040 | - | 3.8 | - | - | -2.8 | 0.3 | 4.0 | KTC22 |
| KT524 | TF | - | | 040 | - | 1.2 | - | - | -2.8 | 0.3 | - | - |
| KT522 | RF | - | R | 060 | - | 1.6 | - | - | -2.8 | 0.3 | 4.5 | KTC23 |
| KT520 | RF | - | L | 022 | - | 3.3 | - | - | -2.8 | 0.3 | 5.0 | KTC24 |
| RW02 | TF | Y | - | 022 | - | 3.1 | @4370 | - | -2.8 | 0.3 | - | - |
| KT590 | TF | - | - | 022 | - | 1.8 | - | - | - | 0.3 | - | - |
| KT592 | RF | - | R | 221 | - | 10.4 | - | - | - | 0.3 | 3.0 | KTC01 |
| KT812 | RF | - | R | 293 | - | 5.0 | - | -220 | - | 0.3 | 3.9 | KTC47 |
| KT814 | TF | - | - | 293 | - | 2.0 | +7500 | - | - | 0.3 | - | - |
| KT914 | TF | - | - | 293 | - | 6.8 | +8500 | - | - | 0.3 | - | - |
| DARKE | TF | - | - | 293 | - | 6.8 | - | - | - | 0.3 | - | - |
| KT890 | RF | - | L | 270 | - | 3.6 | +10000 | - | - | 1 | 9.0 | KTC02 |
| KT892 | TF | - | - | 270 | - | 8.0 | - | - | - | 1 | - | - |
| KT894 | RF | - | L | 229 | - | 5.7 | - | - | - | 1 | 8.0 | KTC29 |
| KT896 | TF | - | - | 229 | - | 6.2 | - | - | - | 1 | - | - |
| KT898 | RF | - | L | 140 | - | 12.4 | - | - | - | 1 | 8.0 | KTC30 |
| DANFE | TF | - | - | 140 | - | 2.0 | @10500 | - | - | 1 | - | - |
| DANFE | HM | - | L | 140 | - | - | +10500 | -230 | - | 1 | - | - |

**RNP Y RWY 02 (AR)**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Via IGRIS | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | +11800 | -250 | - | - | - | - |
| SARMA | TF | - | | 287 | - | 7.7 | +7900 | - | - | 0.3 | - | - |
| KT554 | RF | - | R | 298 | - | 1.9 | - | - | - | 0.3 | 10.00 | KTC33 |
| KT552 | TF | - | - | 298 | - | 7.5 | - | -165 | - | 0.3 | - | - |
| KT550 | RF | - | L | 254 | - | 1.8 | @7500 | - | - | 0.3 | 2.4 | KTC32 |
| Via DARKE | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | +10500 | -250 | - | - | - | - |
| BELOM | TF | - | - | 113 | - | 6.2 | - | - | - | 0.3 | - | - |
| KT566 | RF | - | R | 143 | - | 3.2 | - | - | - | 0.3 | 6.0 | KTC34 |
| KT564 | TF | - | - | 143 | - | 2.0 | +7900 | -200 | - | 0.3 | - | - |
| KT562 | RF | - | L | 027 | - | 6.2 | - | - | - | 0.3 | 3.0 | KTC35 |
| KT560 | RF | - | L | 254 | - | 7.0 | - | - | - | 0.3 | 3.0 | KTC35 |
| KT550 | TF | - | - | 254 | - | 1.0 | @7500 | -165 | - | 0.3 | - | - |
| Final and missed approach | | | | | | | | | | | | |
| KT550 | IF | - | - | - | - | - | @7500 | -165 | - | - | - | - |
| KT546 | RF | - | L | 022 | - | 9.5 | - | - | -2.8 | 0.3 | 2.4 | KTC32 |
| RW02 | TF | Y | - | 022 | - | 1.0 | @4370 | - | -2.8 | 0.3 | - | - |
| KT590 | TF | - | - | 022 | - | 1.8 | - | - | - | 0.3 | - | - |
| KT592 | RF | - | R | 221 | - | 10.4 | - | - | - | 0.3 | 3.0 | KTC01 |
| KT812 | RF | - | R | 293 | - | 5.0 | - | -220 | - | 0.3 | 3.9 | KTC47 |
| KT814 | TF | - | - | 293 | - | 2.0 | +7500 | - | - | 0.3 | - | - |
| KT914 | TF | - | - | 293 | - | 6.8 | +8500 | - | - | 0.3 | - | - |
| DARKE | TF | - | - | 293 | - | 6.8 | | - | - | 0.3 | - | - |
| KT890 | RF | - | L | 270 | - | 3.6 | +10000 | - | - | 1 | 9.0 | KTC02 |
| KT892 | TF | - | - | 270 | - | 8.0 | - | - | - | 1 | - | - |
| KT894 | RF | - | L | 229 | - | 5.7 | - | - | - | 1 | 8.0 | KTC29 |
| KT896 | TF | - | - | 229 | - | 6.2 | - | - | - | 1 | - | - |
| KT898 | RF | - | L | 140 | - | 12.4 | - | - | - | 1 | 8.0 | KTC30 |
| DANFE | TF | - | - | 140 | - | 2.0 | @10500 | - | - | 1 | - | - |
| DANFE | HM | - | L | 140 | - | - | +10500 | -230 | - | 1 | - | - |

**RNP RWY 20 (AR)**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Via RATAN | | | | | | | | | | | | |
| RATAN | IF | - | - | - | - | - | +10500 | -250 | - | - | - | - |
| KT450 | TF | - | - | 022 | - | 2.1 | - | - | - | 0.3 | - | - |
| KT448 | RF | - | L | 360 | - | 3.9 | - | - | - | 0.3 | 10.1 | KTC43 |
| KT446 | TF | - | - | 360 | - | 2.5 | - | - | - | 0.3 | - | - |
| KT444 | RF | - | R | 016 | - | 2.3 | - | - | - | 0.3 | 8.0 | KTC42 |
| KT442 | TF | - | - | 016 | - | 2.8 | +8800 | - | - | 0.3 | - | - |
| BIRUP | RF | - | R | 070 | - | 6.5 | - | - | - | 0.3 | 7.0 | KTC41 |
| KT424 | TF | - | - | 070 | - | 3.9 | +7900 | -220 | - | 0.3 | - | - |
| KT422 | RF | - | L | 047 | - | 1.8 | - | - | - | 0.3 | 4.5 | KTC38 |
| KT421 | TF | - | - | 047 | - | 3.7 | - | -165 | - | 0.3 | - | - |
| KT419 | RF | - | L | 022 | - | 1.1 | @7400 | - | - | 0.3 | 2.5 | KTC37 |
| Via DANFE | | | | | | | | | | | | |
| DANFE | IF | - | - | - | - | - | +10500 | -250 | - | - | - | - |
| KT540 | TF | - | - | 140 | - | 2.0 | - | - | - | 0.3 | - | - |
| KT538 | RF | - | L | 082 | - | 8.6 | - | - | - | 0.3 | 8.5 | KTC31 |
| KT536 | TF | - | - | 082 | - | 7.5 | +10500 | - | - | 0.3 | - | - |
| KT452 | TF | - | - | 082 | - | 5.0 | - | - | - | 0.3 | - | - |
| KT444 | RF | - | L | 016 | - | 7.8 | - | - | - | 0.3 | 6.8 | KTC44 |
| KT442 | TF | - | - | 016 | - | 2.8 | +8800 | - | - | 0.3 | - | - |
| BIRUP | RF | - | R | 070 | - | 6.5 | - | - | - | 0.3 | 7.0 | KTC41 |
| KT424 | TF | - | - | 070 | - | 3.9 | +7900 | -220 | - | 0.3 | - | - |
| KT422 | RF | - | L | 047 | - | 1.8 | - | - | - | 0.3 | 4.5 | KTC38 |
| KT421 | TF | - | - | 047 | - | 3.7 | - | -165 | - | 0.3 | - | - |
| KT419 | RF | - | L | 022 | - | 1.1 | @7400 | - | - | 0.3 | 2.5 | KTC37 |
| Via IGRIS | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | +11800 | -250 | - | - | - | - |
| SARMA | TF | - | - | 287 | - | 7.7 | - | - | - | 0.3 | - | - |
| KT430 | RF | - | R | 320 | - | 4.6 | - | - | - | 0.3 | 8.0 | KTC40 |
| KT428 | TF | - | - | 320 | - | 2.3 | - | -200 | - | 0.3 | - | - |
| KT564 | RF | - | L | 143 | - | 10.8 | - | - | - | 0.3 | 3.5 | KTC39 |
| KT426 | RF | - | L | 107 | - | 2.8 | - | - | - | 0.3 | 4.5 | KTC38 |
| KT424 | RF | - | L | 070 | - | 2.9 | +7900 | - | - | 0.3 | 4.5 | KTC38 |
| KT422 | RF | - | L | 047 | - | 1.8 | - | - | - | 0.3 | 4.5 | KTC38 |
| KT421 | TF | - | - | 047 | - | 3.7 | - | -165 | - | 0.3 | - | - |
| KT419 | RF | - | L | 022 | - | 1.1 | @7400 | | - | 0.3 | 2.5 | KTC37 |
| Via DARKE | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | +10500 | -250 | - | - | - | - |
| BELOM | TF | - | - | 113 | - | 6.2 | - | - | - | 0.3 | - | - |
| KT566 | RF | - | R | 143 | - | 3.2 | - | - | - | 0.3 | 6.0 | KTC34 |
| KT564 | TF | - | - | 143 | - | 2.0 | - | -200 | - | 0.3 | - | - |
| KT426 | RF | - | L | 107 | - | 2.8 | - | - | - | 0.3 | 4.5 | KTC38 |
| KT424 | RF | - | L | 070 | - | 2.9 | +7900 | - | - | 0.3 | 4.5 | KTC38 |
| KT422 | RF | - | L | 047 | - | 1.8 | - | - | - | 0.3 | 4.5 | KTC38 |
| KT421 | TF | - | - | 047 | - | 3.7 | - | -165 | - | 0.3 | - | - |
| KT419 | RF | - | L | 022 | - | 1.1 | @7400 | - | - | 0.3 | 2.5 | KTC37 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Final and missed approach | | | | | | | | | | | | |
| KT419 | IF | - | - | - | - | - | @7400 | - | - | - | - | - |
| KT418 | RF | - | L | 240 | - | 6.2 | - | - | -3.0 | 0.3 | 2.5 | KTC37 |
| KT416 | TF | - | - | 240 | - | 1.0 | - | - | -3.0 | 0.3 | - | - |
| KT414 | RF | - | L | 202 | - | 1.4 | - | - | -3.0 | 0.3 | 2.1 | KTC36 |
| RW20 | TF | Y | - | 202 | - | 0.7 | @4445 | - | -3.0 | 0.3 | - | - |
| KT491 | TF | - | - | 202 | - | 1.8 | - | - | - | 0.3 | - | - |
| KT493 | RF | - | R | 070 | - | 10.3 | - | -210 | - | 0.3 | 2.6 | KTC78 |
| KT494 | TF | - | - | 070 | - | 3.2 | - | - | - | 0.3 | - | - |
| KT910 | RF | - | R | 270 | - | 13.5 | - | - | - | 0.3 | 3.9 | KTC66 |
| KT912 | RF | - | R | 302 | - | 2.8 | +7500 | -230 | - | 0.3 | 5.0 | KTC74 |
| KT916 | TF | - | - | 302 | - | 6.6 | +8500 | - | - | 0.3 | - | - |
| KT918 | RF | - | L | 293 | - | 1.6 | - | - | - | 0.3 | 10.0 | KTC73 |
| DARKE | TF | - | - | 293 | - | 4.9 | - | - | - | 0.3 | - | - |
| KT890 | RF | - | L | 270 | - | 3.6 | +10000 | - | - | 1.0 | 9.0 | KTC02 |
| KT892 | TF | - | - | 270 | - | 8.0 | - | - | - | 1.0 | - | - |
| KT894 | RF | - | L | 229 | - | 5.7 | - | - | - | 1.0 | 8.0 | KTC29 |
| KT896 | TF | - | - | 229 | - | 6.2 | - | - | - | 1.0 | - | - |
| KT898 | RF | - | L | 140 | - | 12.4 | - | - | - | 1.0 | 8.0 | KTC30 |
| DANFE | TF | - | - | 140 | - | 2.0 | @10500 | - | - | 1.0 | - | - |
| DANFE | HM | - | L | 140 | - | - | +10500 | -230 | - | 1.0 | - | - |

## 11. DEPARTURE CODING TABLE

### RNP AR DEPARTURE RWY 02 DARKE 1F

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW02 | IF | - | - | - | - | - | - | - | - | | - | - |
| KT414 | TF | - | - | 022 | - | 2.2 | - | - | - | 0.3 | - | - |
| KT802 | RF | - | R | 090 | - | 2.5 | - | - | - | 0.3 | 2.1 | KTC36 |
| KT804 | TF | - | - | 090 | - | 1.0 | - | - | - | 0.3 | - | - |
| KT806 | RF | - | R | 157 | - | 2.9 | - | - | - | 0.3 | 2.5 | KTC45 |
| KT808 | RF | - | R | 180 | - | 1.0 | - | -220 | - | 0.3 | 2.5 | KTC45 |
| KT810 | RF | - | R | 270 | - | 5.8 | - | - | - | 0.3 | 3.7 | KTC46 |
| KT812 | RF | - | R | 293 | - | 1.5 | - | -230 | - | 0.3 | 3.7 | KTC46 |
| KT814 | TF | - | - | 293 | - | 2.0 | +7500 | - | - | 0.3 | - | - |
| KT914 | TF | - | - | 293 | - | 6.8 | - | - | - | 0.3 | - | - |
| DARKE | TF | - | - | 293 | - | 6.8 | - | - | - | 0.3 | - | - |
| Transit to MANKA (En-route W41) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT855 | TF | - | - | 296 | - | 21.4 | - | - | - | 1.0 | - | - |
| MANKA | TF | - | - | 296 | - | 15.1 | - | - | - | 1.0 | - | - |
| Transit to NARAN (En-route B345) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT840 | RF | - | L | 262 | - | 5.5 | - | - | - | 1.0 | 10.0 | KTC75 |
| KT845 | TF | - | - | 262 | - | 16.8 | - | - | - | 1.0 | - | - |
| NARAN | TF | - | - | 261 | - | 14.2 | - | - | - | 1.0 | - | - |
| Transit to SIMRA (En-route G590) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT840 | RF | - | L | 262 | - | 5.5 | - | - | - | 1.0 | 10.0 | KTC75 |
| KT842 | RF | - | L | 163 | - | 17.2 | - | - | - | 1.0 | 10.0 | KTC75 |
| SIMRA | TF | - | - | 163 | - | 23.6 | - | - | - | 1.0 | - | - |

**RNP AR DEPARTURE RWY 02 IGRIS 1C**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW02 | IF | - | - | - | - | - | - | - | - | 0.3 | - | - |
| KT414 | TF | - | - | 022 | - | 2.2 | - | - | - | 0.3 | - | - |
| KT802 | RF | - | R | 090 | - | 2.5 | - | - | - | 0.3 | 2.1 | KTC36 |
| KT804 | TF | - | - | 090 | - | 1.0 | - | - | - | 0.3 | - | - |
| KT806 | RF | - | R | 157 | - | 2.9 | - | - | - | 0.3 | 2.5 | KTC45 |
| KT808 | RF | - | R | 180 | - | 1.0 | - | -220 | - | 0.3 | 2.5 | KTC45 |
| KT810 | RF | - | R | 270 | - | 5.8 | - | - | - | 0.3 | 3.7 | KTC46 |
| KT830 | TF | - | - | 270 | - | 2.8 | +7500 | - | - | 0.3 | - | - |
| KT832 | RF | - | R | 143 | - | 16.3 | - | -230 | - | 0.3 | 4.0 | KTC71 |
| KT834 | TF | - | - | 143 | - | 4.5 | - | - | - | 0.3 | - | - |
| KT822 | RF | - | L | 107 | - | 6.1 | - | - | - | 0.3 | 9.5 | KTC72 |
| IGRIS | TF | - | - | 107 | - | 3.8 | - | - | - | 0.3 | - | - |
| Transit to KIMTI (En-route B345/G348) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT944 | TF | - | - | 116 | - | 7.0 | - | - | - | 1.0 | - | - |
| KT946 | RF | - | L | 092 | - | 5.0 | - | - | - | 1.0 | 12.0 | KTC63 |
| KIMTI | TF | - | - | 092 | - | 18.6 | - | - | - | 1.0 | - | - |
| Transit to LIKHU | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT944 | TF | - | - | 116 | - | 7.0 | - | - | - | 1.0 | - | - |
| LIKHU | TF | - | - | 121 | - | 23.3 | - | - | - | 1.0 | - | - |
| Transit to AHALE ( En-route R344 ) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT950 | RF | - | R | 138 | - | 4.6 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT965 | TF | - | - | 138 | - | 10.3 | - | - | - | 1.0 | - | - |
| AHALE | TF | - | - | 138 | - | 16.9 | - | - | - | 1.0 | - | - |
| Transit to LALBA (En-route R325/G335) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT950 | RF | - | R | 138 | - | 4.6 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT952 | RF | - | R | 183 | - | 9.5 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT955 | TF | - | - | 183 | - | 7.0 | - | - | - | 1.0 | - | - |
| LALBA | TF | - | - | 183 | - | 19.6 | - | - | - | 1.0 | - | - |

**RNP AR DEPARTURE RWY 02 IGRIS 1D**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW02 | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT414 | TF | - | - | 022 | - | 2.2 | - | - | - | 0.3 | - | - |
| KT802 | RF | - | R | 090 | - | 2.5 | - | - | - | 0.3 | 2.1 | KTC36 |
| KT804 | TF | - | - | 090 | - | 1.0 | - | - | - | 0.3 | - | - |
| KT806 | RF | - | R | 157 | - | 2.9 | - | -220 | - | 0.3 | 2.5 | KTC45 |
| KT820 | TF | - | - | 157 | - | 2.0 | - | - | - | 0.3 | - | - |
| KT822 | RF | - | L | 107 | - | 5.3 | - | - | - | 0.3 | 6.0 | KTC48 |
| IGRIS | TF | - | - | 107 | - | 3.8 | - | - | - | 0.3 | - | - |
| Transit to KIMTI (En-route B345/G348) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT944 | TF | - | - | 116 | - | 7.0 | - | - | - | 1.0 | - | - |
| KT946 | RF | - | L | 092 | - | 5.0 | - | - | - | 1.0 | 12.0 | KTC63 |
| KIMTI | TF | - | - | 092 | - | 18.6 | - | - | - | 1.0 | - | - |
| Transit to LIKHU | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT944 | TF | - | - | 116 | - | 7.0 | - | - | - | 1.0 | - | - |
| LIKHU | TF | - | - | 121 | - | 23.3 | - | - | - | 1.0 | - | - |
| Transit to AHALE (En-route R344) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT950 | RF | - | R | 138 | - | 4.6 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT965 | TF | - | - | 138 | - | 10.3 | - | - | - | 1.0 | - | - |
| AHALE | TF | - | - | 138 | - | 16.9 | - | - | - | 1.0 | - | - |
| Transit to LALBA (En-route R325/G335) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT950 | RF | - | R | 138 | - | 4.6 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT952 | RF | - | R | 183 | - | 9.5 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT955 | TF | - | - | 183 | - | 7.0 | - | - | - | 1.0 | - | - |
| LALBA | TF | - | - | 183 | - | 19.6 | - | - | - | 1.0 | - | - |

**RNP AR DEPARTURE RWY 20 DARKE 1G**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW20 | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT901 | TF | - | - | 202 | - | 2.3 | - | - | - | 0.3 | - | - |
| KT903 | RF | - | R | 305 | - | 3.8 | - | -220 | | 0.3 | 2.1 | KTC50 |
| KT905 | RF | - | R | 065 | - | 5.7 | - | - | - | 0.3 | 2.7 | KTC51 |
| KT906 | TF | - | - | 065 | - | 2.6 | - | - | - | 0.3 | - | - |
| KT908 | RF | - | R | 157 | - | 6.2 | +7500 | - | - | 0.3 | 3.9 | KTC66 |
| KT911 | RF | - | R | 305 | - | 10.7 | - | -230 | - | 0.3 | 4.1 | KTC52 |
| KT915 | TF | - | - | 305 | - | 6.3 | - | - | - | 0.3 | - | - |
| KT918 | RF | - | L | 293 | - | 2.1 | - | - | - | 0.3 | 10.0 | KTC73 |
| DARKE | TF | - | - | 293 | - | 4.9 | - | - | - | 0.3 | - | - |
| Transit to MANKA (En-route W41) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT855 | TF | - | - | 296 | - | 21.4 | - | - | - | 1.0 | - | - |
| MANKA | TF | - | - | 296 | - | 15.1 | - | - | - | 1.0 | - | - |
| Transit to NARAN (En-route B345) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT840 | RF | - | L | 262 | - | 5.5 | - | - | - | 1.0 | 10.0 | KTC75 |
| KT845 | TF | - | - | 262 | - | 16.8 | - | - | - | 1.0 | - | - |
| NARAN | TF | - | - | 261 | - | 14.2 | - | - | - | 1.0 | - | - |
| Transit to SIMRA (En-route G590) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT840 | RF | - | L | 262 | - | 5.5 | - | - | - | 1.0 | 10.0 | KTC75 |
| KT842 | RF | - | L | 163 | - | 17.2 | - | - | - | 1.0 | 10.0 | KTC75 |
| SIMRA | TF | - | - | 163 | - | 23.6 | - | - | - | 1.0 | - | - |

**RNP AR DEPARTURE RWY 20 DARKE 1H**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW20 | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT901 | TF | - | - | 202 | - | 2.3 | - | - | - | 0.3 | - | - |
| KT903 | RF | - | R | 305 | - | 3.8 | - | -220 | - | 0.3 | 2.1 | KTC50 |
| KT915 | TF | - | - | 305 | - | 4.2 | - | - | - | 0.3 | - | - |
| KT918 | RF | - | L | 293 | - | 2.1 | - | - | - | 0.3 | 10.0 | KTC73 |
| DARKE | TF | - | - | 293 | - | 4.9 | - | - | - | 0.3 | - | - |
| Transit to MANKA (En-route W41) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT855 | TF | - | - | 296 | - | 21.4 | - | - | - | 1.0 | - | - |
| MANKA | TF | - | - | 296 | - | 15.1 | - | - | - | 1.0 | - | - |
| Transit to NARAN (En-route B345) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT840 | RF | - | L | 262 | - | 5.5 | - | - | - | 1.0 | 10.0 | KTC75 |
| KT845 | TF | - | - | 262 | - | 16.8 | - | - | - | 1.0 | - | - |
| NARAN | TF | - | - | 261 | - | 14.2 | - | - | - | 1.0 | - | - |
| Transit to SIMRA (En-route G590) | | | | | | | | | | | | |
| DARKE | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT840 | RF | - | L | 262 | - | 5.5 | - | - | - | 1.0 | 10.0 | KTC75 |
| KT842 | RF | - | L | 163 | - | 17.2 | - | - | - | 1.0 | 10.0 | KTC75 |
| SIMRA | TF | - | - | 163 | - | 23.6 | - | - | - | 1.0 | - | - |

**| RNP AR DEPARTURE RWY 20 IGRIS 1E**

| W/P ID | PT | Fly over | TD | CRS (°) mag | Time Val | DIST NM | ALT FT | SPD kt | FPA | RNP | RADIUS NM | ARC CTR ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW20 | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT901 | TF | - | - | 202 | - | 2.3 | - | - | - | 0.3 | - | - |
| KT903 | RF | - | R | 305 | - | 3.8 | - | -220 | - | 0.3 | 2.1 | KTC50 |
| KT905 | RF | - | R | 065 | - | 5.7 | - | - | - | 0.3 | 2.7 | KTC51 |
| KT906 | TF | - | - | 065 | - | 2.6 | - | - | - | 0.3 | - | - |
| KT908 | RF | - | R | 157 | - | 6.2 | +7500 | - | - | 0.3 | 3.9 | KTC66 |
| KT920 | TF | - | - | 157 | - | 1.0 | - | -230 | - | 0.3 | - | - |
| KT922 | RF | - | L | 107 | - | 6.6 | - | - | - | 0.3 | 7.5 | KTC67 |
| IGRIS | TF | - | - | 107 | - | 4.9 | - | - | - | 0.3 | - | - |
| Transit to KIMTI (En-route B345/G348) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT944 | TF | - | - | 116 | - | 7.0 | - | - | - | 1.0 | - | - |
| KT946 | RF | - | L | 092 | - | 5.0 | - | - | - | 1.0 | 12.0 | KTC63 |
| KIMTI | TF | - | - | 092 | - | 18.6 | - | - | - | 1.0 | - | - |
| Transit to LIKHU | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT944 | TF | - | - | 116 | - | 7.0 | - | - | - | 1.0 | - | - |
| LIKHU | TF | - | - | 121 | - | 23.3 | - | - | - | 1.0 | - | - |
| Transit to AHALE (En-route R344) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT950 | RF | - | R | 138 | - | 4.6 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT965 | TF | - | - | 138 | - | 10.3 | - | - | - | 1.0 | - | - |
| AHALE | TF | - | - | 138 | - | 16.9 | - | - | - | 1.0 | - | - |
| Transit to LALBA (En-route R325/G335) | | | | | | | | | | | | |
| IGRIS | IF | - | - | - | - | - | - | - | - | - | - | - |
| KT940 | TF | - | - | 107 | - | 3.0 | - | - | - | 1.0 | - | - |
| KT942 | RF | - | R | 116 | - | 2.0 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT950 | RF | - | R | 138 | - | 4.6 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT952 | RF | - | R | 183 | - | 9.5 | - | - | - | 1.0 | 12.0 | KTC49 |
| KT955 | TF | - | - | 183 | - | 7.0 | - | - | - | 1.0 | - | - |
| LALBA | TF | - | - | 183 | - | 19.6 | - | - | - | 1.0 | - | - |

**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

CAT: A B C D
*AD ELEV: 4395*

**KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)**
**RNP1 - ARRIVALS RWY02-20**

APP: 120.6 Tower: 118.1 GND: 121.9 | *Trans Alt: 13500'* | ARP: 27°41'46"N 085°21'38"E | VAR: 0°W (16) | STAR 1

**STANDARD ARRIVAL CHART - INSTRUMENT (STAR) - ICAO**

CAT: A B C D
*AD ELEV: 4395*

**KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)**

**RNP1 - ARRIVALS RWY02-20**

APP: 120.6 Tower: 118.1 GND: 121.9 | *Trans Alt: 13500'* | ARP: 27°41'46"N 085°21'38"E | VAR: 0°W (16) | STAR 2

RF Required

NAVBLUE® CGX®

## INSTRUMENT APPRAOCH CHART- ICAO

CAT: A B C D
*AD ELEV: 4395, **THR ELEV: 4320 (148hPa)***

## KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)
## RNP Z RWY 02(AR)

APP: 120.6 TWR: 118.1 GND:121.9

**AUTHORIZATION REQUIRED** | VAR: 0°W (16) | APP 1

For non-baro compensated aircraft:
Minimum Temperature: -10°C

ARP: 27°41'46"N - 085°21'38"E

*[R02Z]* **via DANFE**
*[R02Z]* **via RATAN**

**RNP AR**
**RF REQUIRED**

*Trans Alt: 13500'*

❷ PAPI ANGLE NOT COINCIDENT WITH VPA

RNP 0.3
MA climb gradient 2.5%

| CAT | A | B | C | D |
|---|---|---|---|---|
| ***DA*** (H) | ***4620*** (300) | | | |
| VIS (m) ALS | 1100 | | | |
| VIS (m) no ALS | 2000 | | | |

**Missed Approach (see APP4 chart)**

*Climb to **10500'** (6179) via the RNP (AR) missed approach to **DANFE.***
*At **DANFE** hold or start a new approach.*

NAVBLUE® CGX®

## INSTRUMENT APPRAOCH CHART- ICAO

CAT: A B C D

*AD ELEV: 4395, **THR ELEV: 4320 (148hPa)***

## KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)
## RNP Y RWY 02 (AR)
## via IGRIS

APP: 120.6 TWR: 118.1 GND:121.9

**AUTHORIZATION REQUIRED** | VAR: 0°W (16) | APP 3

For non-baro compensated aircraft:
Minimum Temperature: -10°C

ARP: 27°41'46"N - 085°21'38"E

*[R02-Y]* **via IGRIS**

**RNP AR**
**RF REQUIRED**

| RNP 0.3<br>MA climb gradient 2.5% | | | | |
|---|---|---|---|---|
| CAT | A | B | C | D |
| ***DA*** (H) | ***4620*** (300) | | | |
| VIS (m) ALS | 2000 | | | |
| VIS (m) no ALS | 2000 | | | |

PAPI ANGLE NOT COINCIDENT WITH VPA

**Missed Approach**
**(see APP4 chart)**

Climb to ***10500'*** (6179) via the RNP (AR) missed approach track to **DANFE**. At **DANFE** hold or start a new approach via **DANFE**.

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## INSTRUMENT APPRAOCH CHART- ICAO

CAT: A B C D
*AD ELEV: 4395,* ***THR ELEV: 4320 (148 hPa)***

## KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)
## RNP Y RWY 02 (AR)
## via DARKE

APP: 120.6 TWR: 118.1 GND:121.9

**AUTHORIZATION REQUIRED** | VAR: 0°W (16) | APP 2

For non-baro compensated aircraft:
Minimum Temperature: -10°C

ARP: 27°41'46"N - 085°21'38"E

*[R02-Y]* **via DARKE**

**RNP AR**
**RF REQUIRED**

| RNP 0.3<br>MA climb gradient 2.5% | | | | |
|---|---|---|---|---|
| CAT | A | B | C | D |
| ***DA*** (H) | ***4620*** (300) | | | |
| VIS (m) ALS | 2000 | | | |
| VIS (m) no ALS | 2000 | | | |

### Missed Approach
(see APP4 chart)

Climb to ***10500'*** (6179) via the RNP (AR) missed approach track to **DANFE**. At **DANFE** hold or start a new approach via **DANFE**.

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**INSTRUMENT APPRAOCH CHART- ICAO** CAT: A B C D

*AD ELEV: 4395,* ***THR ELEV: 4320 (148 hPa)***

**KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)**

**RNP RWY 02 (AR) - MISSED APPROACH**

APP: 120.6 TWR: 118.1 GND:121.9 | *Trans Alt : 13500'* | **AUTHORIZATION REQUIRED** | VAR: 0°W (16) | APP 4

For non-baro compensated aircraft: Minimum Temperature: -10°C

ARP: 27°41'46"N - 085°21'38"E

**RNP AR**
**RF REQUIRED**

**Missed Approach**

Climb to ***10500'*** (6179) via the RNAV (RNP) missed approach to **DANFE**.
At **DANFE** hold or start a new approach.
If able to reach ***10500'*** before **DARKE**, request ATC clearance to hold over **DARKE**.

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**INSTRUMENT APPRAOCH CHART- ICAO** CAT: A B C D

*AD ELEV: 4395,* ***THR ELEV: 4395 ( 150 hPa)***

**KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)**

**RNP RWY 20 (AR)**

APP: 120.6 TWR: 118.1 GND:121.9 | **AUTHORIZATION REQUIRED** | VAR: 0°W (16) | APP 5

For non-baro compensated aircraft: Minimum Temperature: -10°C

ARP: 27°41'46"N - 085°21'38"E

*[R20]* **via DANFE**
*[R20]* **via DARKE**
*[R20]* **via IGRIS**
*[R20]* **via RATAN**

**RNP AR**
**RF REQUIRED**

*TA: 13500'*

**Missed Approach**
**(see APP6 chart)**

Climb to ***10500'*** (6105) via the RNP (AR) missed approach track to **DANFE**. At **DANFE** hold or start a new approach via **DANFE**.

| MA Climb Gradient |
|---|
| 2.5 % |

| CAT | RNP 0.3 | |
|---|---|---|
| | ***DA***/H | Vis (m) |
| A | ***4680'*** / 290' | 3500 |
| B | ***4690'*** / 300' | 3500 |
| C | ***4700'*** / 310' | 3500 |
| D | ***4720'*** / 320' | 3500 |

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**INSTRUMENT APPRAOCH CHART- ICAO** CAT: A B C D

*AD ELEV: 4395,* ***THR ELEV: 4395 (150 hPa)***

**KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)**

**RNP RWY 20 (AR) - MISSED APPROACH**

APP: 120.6 TWR: 118.1 GND:121.9

**AUTHORIZATION REQUIRED** | VAR: 0°W (16) | APP 6

For non-baro compensated aircraft: Minimum Temperature: -10°C

ARP: 27°41'46"N - 085°21'38"E

**RNP AR**
**RF REQUIRED**

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## STANDARD DEPARTURE CHART-INSTRUMENT (SID)

CAT: A B C D
*AD ELEV: 4395*

## KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)
## RNP AR DEPARTURES RWY 02

APP: 120.6 TWR: 118.1 GND:121.9 *TRANS ALT: 13500'*

**AUTHORIZATION REQUIRED** | VAR: 0°W (16) | SID 1

ARP: 27°41'46"N - 085°21'38"E

### Departure Routes Description

Climb (1) to the ENROUTE safety altitude via RNP (AR) Dep.
(1) Required climb gradient due to obstacles: **5.2%** up to **5200 ft** then resume **3.3%**

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## STANDARD DEPARTURE CHART-INSTRUMENT (SID)

CAT: A B C D
*AD ELEV: 4395*

## KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)
## RNP AR DEPARTURES RWY 20

APP: 120.6 TWR: 118.1 GND:121.9 | *TRANS ALT: 13500'* | **AUTHORIZATION REQUIRED** | VAR: 0°W (16) | SID 2

ARP: 27°41'46"N - 085°21'38"E

**DARKE1G** *[DARK1G]*
**DARKE1H** *[DARK1H]*
**IGRIS1E** *[IGRI1E]*

**RNP AR**
**RF REQUIRED**

| Departure Routes Description |
|---|
| Climb (1) to the ENROUTE safety altitude via RNP (AR) Dep.<br>(1) Required climb gradient due to obstacles: **3.6% up to 5300 ft** then resume **3.3%** |
| **Note** |
| Existence of close-in obstacles not considered to determine the PDG. |

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

CAT: A B C D
*AD ELEV: 4395*

**KATHMANDU/TRIBHUVAN INTERNATIONAL (VNKT)**
**RNP AR DEPARTURES RWY 02-20 (TRANSIT CHART)**

APP: 120.6 TWR: 118.1 GND:121.9 *TRANS ALT: 13500'* | **AUTHORIZATION REQUIRED** | VAR: 0°W (16) | SID 3

ARP: 27°41'46"N - 085°21'38"E

**RNP AR RF REQUIRED**

**TRANSIT FROM DARKE TO ENROUTE :**
1. MANKA (En-route W41)
2. NARAN (En-route B345)
3. SIMRA (En-route G590)

**TRANSIT FROM IGRIS TO ENROUTE :**
1. KIMTI (En-route B345/G348)
2. LIKHU
3. AHALE (En-route R344)
4. LALBA (En-route R325/G335)

NAVBLUE® CGX®

# KATHMANDU TERMINAL AREA CHART

5321

# KATHMANDU IFR HOLDINGS

**TRANS LEVEL FL 150**
**TRANS ALT 13500'**
**AD ELEV 4395'**
**VAR 0° W (2010)**

Bearings, tracks and radials are magnetic, height in feet
Distances in nautical miles

Coordinates are in WGS-84 system.

NOTE.-1. IGRIS, GURAS, DARKE holdings are laterally separated
2. GURAS and KTM VOR holdings shall not be used simultaneously at same level.

# Tribhuvan Int'l Airport, Controlled Airspace

# VFR HOLDING POINTS FOR TIA (INSIDE VALLEY)

## HOLDING DETAILS

| NAME | LOCATION | Inbound Track | Visual Reference | Remarks |
|---|---|---|---|---|
| **KIRTI** | 'KTM' (R275/D4) | 095° | Kirtipur City | **Remain north of R258 and outside 2.5D arc** |
| **SOYAM** | 'KTM' (R304/D4) | 124° | Swoyambhu Stupa | **Remain south of R332 and outside 2.5D arc** |
| **THECHO** | 'KTM' (R201/D4) | 021° | Locator 'LTH' | |
| **NALIN** | 'KTM' (R103/D6.5) | 283° | Locator 'LNC' | |
| **BHAKTA** | 'KTM' (R090/D4) | 270° | Bhaktapur City | |
| **CHANG** | 'KTM' (R060/D5) | 240° | Temple | |
| **SURYA** | 'KTM' (R108/D4) | 288° | Temple | |

Note:- 1. All holding at these points shall be made in VMC.
2. Terrain clearance shall be a pilot responsibility.

## ADDITIONAL VFR HOLDINGS FOR TIA (OUTSIDE VALLEY)

## HOLDING DETAILS

| NAME | LOCATION | Inbound Track | Visual Reference | Remarks |
|---|---|---|---|---|
| **NAUBI** | 'KTM' (R255/D11) | 075° | Naubise City | |
| **HETAU** | 'SMR' (R016/D15) | 043° | Hetauda Area | |
| **BANEP** | 'KTM' (R110/D10) | 290° | Banepa City | |
| **NAKOT** | 'KTM' (R095/D14) | 275° | Nagarkot Hills | |

Note:- 1. All holding at these points shall be made in VMC.
2. Terrain clearance shall be a pilot responsibility.

# KATHMANDU MOUNTAIN FLIGHT ROUTE

Var 0° E (2012)
CHINA
KATHMANDU FIR VNSM
KUNMING FIR (ZPKM)
Ganesh Himal 23321
Yangra Himal 24374
Langtang Ri 23097
Rasuwagadhi
LANGTANG
11998 - 1378 09/27 E
Syabrubesi
DHUNCHE
Kalikasthan
Helambu
Langtang National Park
Ganesh Kunda
Gosain Kunda
Saraswati Kunda
Surwalya Pokhari
Panch Pokhari
Bhairab Kunda
GOSAIN KUNDA LEK
BHAIRAV KUNDA LEK
PHURBICHYACHU HIMAL
LANGTANG HIMAL
VOR/DME KTM
113.2 MHz / 79X
274025 N
0852055 E
NDB
KAM 318 KHz
274138 N
0852113 E
TMA KATHMANDU
F460
7500' AMSL
126.5./120.6
275017 N
0852253 E
BIDUR
Devighat
Trisuli River
Kaule
Melamchi
Nawalpur
Shivapuri National Park
ATZ KATHMANDU
2000 AGL
GND
118.1/121.9
Swayambhunath
Pashupatinath
KATHMANDU
4395 - 10000 02/20
BHAKTAPUR
LNC
LALITPUR
DARKE
274441 N
0850618 E
CTR KATHMANDU
7500' AMSL
GND
118.1/120.6
Palung
Bhaise
Bhimphedi
HETAUNDA
Padampokhari
Thulodamar
Phaparbari
GURAS
272533 N
0851429 E
Chyamrangbesi
Bagmati River
LTH
LTH 230 KHz
273645 N
0861924 E
Banepa
DHULIKHEL
IGRIS
Mahadevsthan
Indrawati River
CHAUTARA
BARBI
Bahrabise
Bhotekosi River
Marming
Dolalghat
Deurali
Dolakha
CHARIKOT
JIRI
6063 - 1197 14/32 E
Kanpur
Bhadaure
Sun Koshi River
Namchen
Pawoti
Tama Koshi River
KIMTI
272948 N
0861604 E
Sagan
Birpani
Ratmate
Hayatara
RAMECHHAP
1617 - 1700 03/21 G
MANTHALI
LIKHU
271952 N
0861212 E
Khijiphalate
KARTI
Khopa
Badare
Sikpashwor
Thangla Bhanjyang
Phuma Bhanjyang
Gaurishankar 23400
ROLWALING HIMAL
Tso-Rolpa Lake
275454 N
0861454 E
Nangpa Bhanjyang
Cho-You 26906
MAHALANGUR HIMAL
Sagarmatha National Park
Sagarmatha
Mt. Everest
29029
Nuptse 25869
Lhotse 27939
Amadablam 22290
Makalu 27765
SYANGBOCHE
12348 - 1328 13/31 E
LUKLA
9337 - 1728 06/24
Dudh Kunda
Dudh Pokhari
Makalu-Barun National Park
Lamjura Pass
Kaphlechaur
KhariKhola
Bakamkharka
Tamku
Salpa Pokhari
PHAPLU
8097 - 2230 02/20
Tamtinge
SALLERI
KANGEL DANDA
6880 - 1706 11/29 E
Sungdel
Phedi
RUMJATAR
4498 - 1801 17/35
OKHALDHUNGA
Lukhu Khola
Dudh Kosi
Tama Koshi River
Bagmati River
Trisuli River
Indrawati River
Bhotekosi River
Sun Koshi River
Salpa Pokhari
Dudh Pokhari
Chauta Khola

# Heli-lane (Kathmandu)

# Kathmandu –Name of Heli Lane and Sector with Entry and Exit Point as well as Altitude

| Name of Heli-Lane | | Sector | Entry/Exit Point | Altitude | Remarks |
|---|---|---|---|---|---|
| **BAGMATI** | **Bravo** | Gothatar Junction- Chabhil Bridge- Follow Dhobikhola River -Bagmati/Dhobikhola Junction Follow Bagmati River - Balkhu Bridge-**Khokana Pass** | **Khokana** | **5500** | |
| | **Kilo** | Manahara/Humanute Junction- Follow ManaharaRiver -Bagmati/Dhobikhola Junction - Follow Bagmati River- Balkhu Bridge-**Khokana Pass** | **Khokana** | **5500** | |
| **GOKARNA** | | Gothatar Junction - Follow Bagmati River -Gokarna-Sundarijal - **Sundarijal Pass** | **Sundarijal** | **7500** | |
| **MAIJU** | | Gothatar Junction- Narayan Gopal Chowk - Follow Ringroad- Gangabu-**Maiju Pass**-Chaturali | **Maiju** | **5500** | |
| **THANKOT** | **Bravo** | Gothatar Junction - Chabhil Bridge-Follow Dhobikhola River - Bagmati/Dhobikhola Junction - Follow BagmatiRiver - Balkhu Bridge-NorthKirtipur-**Thankot Pass** (Nagdhunga)– Naubishe | **Thankot** | **5500** | |
| | **Kilo** | Manahara/Humanute Junction-Follow Manahara River - Bagmati/Dhobikhola Junction - Follow Bagmati River - Balkhu Bridge - North Kirtipur-**Thankot Pass** (Nagdhunga)–Naubishe | **Thankot** | **5500** | |
| **TOKHA** | | Gothatar Junction-Gokarna Bagmati Bridge - South of Kapan Gumba - Tokha-**Tokha Pass** | **Tokha** | **6500** | |
| **SITAPAILA** | | Gothatar Junction - Narayan Gopal Chowk - Gangabu- Machha Pokhari Chowk -Swayamb-hu-Sitapaila-**Sitapaila Pass**–Jeewanpur | **Sitapaila** | **5500** | |
| **BHAKTA** | **Nala(Exit)** | Duwakot- Kaushal - **Nala Pass** - Tanchok | **Nala** | **6000** | |
| | **Sanga (Entry)** | Banepa-**Sanga Pass**- Sallaghari- Bode | **Sanga** | **6000** | |
| **CHANGU** | **Kartike(Exit)** | Kageshori Manahara - Indrayani - Sankhu-**Kartike Pass**–Baluwapati | **Kartike** | **6500** | |
| | **Nagarkot (Entry)** | Nayagaun-Nagarkot pass-Chhyabasti-Changu Narayan-Mulpani | **Changu** | **6500** | |

## HELI-LANE

Notes:

1. Helicopter Holding Point Chabahil Bridge for West – Non-standard - Holding speed not more than 80 knots. Altitude shall be 5000 ft.

2. Helicopter Holding Point Mulpani for East – Non-standard- Holding speed not more than 80 knots. Altitude shall be 5000 ft.

3. Heli lane must be followed as per Heli Check point

4. Maintain 5000 ft.till 5NMthen gradually climb to cross the pass as per given Heli-Lane altitude.

5. All inbound helicopters will reach 5000 ft.by 5 NM after entering valley

6. While flying inside the valley, it is the responsibility of PIC to avoid congested/restricted areas, natural/cultural heritage areas and the obstacles as per Civil Aviation Requirements

7. Heli-lane shall be used in VFR condition only.

8. Heli-lanes are defined by straight lines joining successively the coordinates of respective Heli-lane

9. Unless it is otherwise instructed by Air Traffic Control unit PIC have to maintain the publishedHeli-lane altitude. After leaving valley helicopter will maintain level as per quadrant rule upto 6500 ft. till 25 NM except north.

10. Departing helicopters are required to maintain 4800 ft. crossing take off/landing path of RWYthen follow lane altitude.

11. If instructed by ATC exit & entry point can be changed as per the Air traffic requirement.

12. When landing aircraft crossed initial approach fix for approach no helicopter shall be permitted to cross Bagmati-Kilo lane.

13. No crossing when traffic on final RWY 20 or landing traffic is within 4 miles final on Runway02 and when traffic departing from 02.

## Heli Lane - Kathmandu (TIA)

**Co-ordinates**

| S.N. | Name of Sector | Latitude | Longitude | Remarks |
|---|---|---|---|---|
| 1 | Bagmati/Dhobikhola JNC | N27°41’10.0” | E085°19’27.0” | |
| 2 | Balkhu Bridge | N27°41’02.5” | E085°17’57.0” | |
| 3 | Baluwapati | N27°43'48" | E085°32'44.64" | |
| 4 | Banepa | N27°38'00" | E085°31'00" | |
| 5 | Bhakta North (Nala) Pass | N 27°40'35” | E085°29’58” | |
| 6 | Bhakta South (Sanga) Pass | N 27°38’31.1” | E085°28’37.6” | |
| 7 | Bode | N27°41’27.48” | E085°23’26” | |
| 8 | Chabahil Bridge | N27°43’19.0” | E085°20’41.0” | |
| 9 | Changunarayan | N27°43'20.0" | E085°25'48.0" | |
| 10 | Chaturali | N27°47'23.36" | E085°11'39.33" | |
| 11 | Chhyabasti | N27°43’06.36” | E085°28’00” | |
| 12 | Duwakot | N27 °42’00” | E085°24’35.6” | |
| 13 | East Helipad | N27°41’52.0” | E085°21’43” | |
| 14 | Gokarna | N27°44'21.0" | E085°23'19.0" | |
| 15 | Gokarna Bagmati Bridge | N27°43’18.00” | E085°22’57” | |
| 16 | Gongabu | N27°45’04.0” | E085°19’00.0” | |
| 17 | Gothatar Junction | N27°42’48.25” | E085°22’32” | |
| 18 | Indrayani | N27°43’48” | E085°26’22.33” | |
| 19 | Jeewanpur | N27°45'06" | E085°10'10.46" | |
| 20 | Kageshori Manahara | N27°43’28.41” | E085°24’38” | |
| 21 | Kartike Pass | N27°43'53.0" | E085°30'45.0" | |
| 22 | Kaushal | N27°41’41” | E085°27’51.50” | |
| 23 | Khokana Pass | N27°38’10.9 | E085°17’32.2” | |
| 24 | Machha Pokhari Chowk | N27°44’08.0” | E085°18’21.0” | |
| 25 | Maiju Pass | N27°46’38.5” | E085°16’29.0” | |
| 26 | Manahara/Hanumante JNC | N27°40’05.0” | E085°21’11.0” | |
| 27 | Mulpani | N27°42’37” | E085°24’00” | |
| 28 | Nagarkot Pass | N27°43'02.7" | E085°31'13.1" | |
| 29 | Narayan Gopal Chowk | N 27°44’26.0” | E085°20’15.0” | |
| 30 | Naubishe | N27°42'59.8" | E085°09'00.0" | |
| 31 | Nayagaun | N27°42'38.44" | E085°34'10" | |
| 32 | North Kirtipur | N27°41'21.3" | E085°15'47.5" | |
| 33 | Sallaghari | N27°40'22.31" | E085°24'25.86" | |
| 34 | Shankhu | N27°43’44.39” | E085°27’50” | |
| 35 | Sitapaila | N27°42’55.6” | E085°15’57.5” | |
| 36 | Sitapaila Pass | N27°43’49.0” | E085°13’48.0” | |
| 37 | South of Kapan Gumba | N27°44’19.50” | E085°21’45.20” | |
| 38 | Sundarijal | N27°45’28.3” | E085°25’14.4” | |
| 39 | Sundarijal Pass | N27°47’56.8” | E085°28’01.4” | |
| 40 | Swayambhu | N27°43’01.0” | E085°16’57.0” | |
| 41 | Tanchok | N27°39’55.6” | E085°32'17" | |
| 42 | Thankot (Nagdhunga) Pass | N27°42'24.22" | E085°12'22" | |
| 43 | Tokha | N27°46’43.5” | E085°20’18.1” | |
| 44 | Tokha Pass | N27°48’47.4” | E085°18’56.9” | |

| INSTRUMENT APPROACH CHART - ICAO | AERODROME ELEV 4395' HEIGHTS RELATED TO THR RWY 02 - ELEV 4320' | APP 120.6 MHz<br>TWR 118.1 MHz<br>GND 121.9 MHz | KATHMANDU, NEPAL (VNKT)<br>Tribhuvan International Airport<br>LOC RWY 02 |
|---|---|---|---|

**TRANSITION LEVEL F150**
**TRANSITION ALT A135**

Missed Approach:
(Missed approach turn limited to 185 kt IAS Maximum.
Minimum Missed approach climb gradient is 5%.)

Climb straight ahead. At 3 DME on R022 KTM turn right maintain HDG243° to intercept R108 inbound to 'KTM' VOR at or above 7500 ft. Follow R-288 outbound to DARKE (D13.5/R-288) at or above 10500 ft.

| LOCALIZER APPROACH RWY02 | | CAT-A | CAT-B | CAT-C | CAT-D |
|---|---|---|---|---|---|
| Straight-in-Approach | OCA (OCH) | 4860(540) | | 4860(540) | |
| | Visibility-FULL | 1800m | | 2000m | |
| | Visibility-ALS Out | 2600m | | 2800m | |
| Circling | OCA (OCH) | 4860 (465) | 5470 (1070) | Not authorized | |
| | Visibility | 2600m | 4600m | | |
| | CIRCLING IS NOT AUTHORIZED AT NIGHT | | | | |

| Recommended profile | NM to IKT | 11 | 10 | 9 | 8 | 7 | 6 | 5.5 | 5 | 4 | MAPt |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Final Gradient<br>From FAF to 5.5 DME IKT 9.3 % (5.4°)<br>From 5.5 DME IKT THR 5.2% (3.0°) | ALT(HGT) | 8640 (4320) | 8080 (3760) | 7530 (3210) | 6980 (2660) | 6420 (2100) | 5870 (1550) | 5590 (1270) | 5340 (1020) | 5150 (830) | - |

| D5.5 TO MAPt: 3.2 NM | | | | | | |
|---|---|---|---|---|---|---|
| Speed | Knots | 60 | 90 | 120 | 150 | 180 |
| Time | Min:Sec | 3:12 | 2:8 | 1:36 | 1:16 | 1:4 |
| Rate of Descent | Ft/min@5.2% | 316 | 474 | 632 | 790 | 948 |