# ENR 3 ATS ROUTES

## ENR 3.1 CONVENTIONAL NAVIGATION ROUTES

| *Route Designator {RNP Type}* | | *[Route Usage Notes]* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Significant Point Name* | *Significant Point Coordinates* | | | | | | | | *Remarks* |
| *{RNP Type}* | | *Track MAG* ↓/↑ | *Dist NM* | *(COP)* | *Upper limit / Lower limit* | *MNM FLT ALT* | *Lateral limits NM* | *Direction of cruising levels* ↓ | *Direction of cruising levels* ↑ | *Controlling unit Frequency {Airspace class} Remarks* |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **A224** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | JOHOR BAHRU DVOR/DME (VJB) | 013950N 1033939E | | | | | | | | |
| | | 196°/016° | 45.3NM | | FL 460/5500 FT ALT | 6000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | MERSING DVOR/ DME (VMR) (58 DME PU) | 022318N 1035218E | | | | | | | | |
| *Route remarks:*<br>-<br>*Point/Segment Remarks:*<br>- | | | | | | | | | | |

| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **A457** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | JOHOR BAHRU DVOR/DME (VJB) | 013950N 1033939E | | | | | | | | |
| | | 296° / 116° | 25.0NM | | FL 460 / 4500 FT ALT | 5000 FT | 20 | Even(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | SABKA | 015051N 1031713E | | | | | | | | |
| | | 296° / 116° | 27.1NM | | FL 460 / 4500 FT ALT | 5000 FT | 20 | Even(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | MASBO | 020248N 1025251E | | | | | | | | |

*Route remarks:*

Flight Planning:
Northbound flights landing at WMKK and WMSA are to flight plan via A457.
Flights departing from Singapore FIR to destinations north of WMKK and WMSA, refer to Y339.
Flights overflying Singapore FIR to destinations north of WMKK and WMSA, refer to Y342.
Tolerances of airway infringe WMD222 ASAHAN (activated by NOTAM)
– Military activities


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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **A464** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | ARAMA (Delegated Airspace BDRY) | 013654N 1030712E | | | | | | | | |
| | | 117° / - | 14.9NM | | FL 460 / 3500 FT ALT | 5500 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | 35DME SJ | 012954N 1032024E | | | | | | | | |
| | | 118° / - | 5.0NM | | FL 460 / 3000 FT ALT | 5500 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | LELIB | 012729N 1032450E | | | | | | | | |
| | | 117° / - | 14.6NM | | FL 460 / 3000 FT ALT | 5500 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | MASNI (WSJC/WMFC FIR BDRY) | 012037N 1033746E | | | | | | | | |
| | | 118° / - | 15.3NM | | FL 460 / 3000 FT ALT | 5500 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | SINJON DVOR/DME (SJ) | 011321N 1035115E | | | | | | | | |
| | | 116° / 294° | 2.8NM | | FL 460 / 2000 FT ALT | 6000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | AVPIV (WSJC/WIIF FIR BDRY) (Delegated Airspace BDRY) | 011207N 1035349E | | | | | | | | |
| | | 115° / 295° | 20.0NM | | FL 600 / 2000 FT ALT | 5500 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | IRTAD | 010326N 1041147E | | | | | | | | |
| | | 115° / 295° | 21.2NM | | FL 600 / 2000 FT ALT | 5500 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | TANJUNGPINANG VOR/DME (TPG) | 005413N 1043052E | | | | | | | | |

*Route remarks:*

Singapore ACC FREQ:
P133.25 MHz S135.8 MHz
Flight Planning Instructions:
Arrivals into Changi on A464 to flight plan via A464 – ARAMA – TEBUN. After TEBUN, to join the TEBUN STAR. When traffic permits, ATC will offer LELIB 3B
for WSSS RWY 20.
Arrivals into Batam and Tanjungpinang on A464 to flight plan via A464 – ARAMA – GUNAN. After GUNAN to join the GUNAN STAR (refer to Indonesia AIP
WIDD AD 2.24 or WIDN AD 2.24 respectively).
Flights above FL370 between AVPIV and TPG VOR/DME, see AIP Indonesia ENR2.1.

*Point/Segment Remarks:*
-

| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓/↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **A576** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | REKOP<br>(50 DME SJ)<br>(Delegated airspace BDRY) | 013306N 1030521E | | | | | | | | |
| | | 112°/292° | 16.1NM | | FL 460/6500 FT ALT | 7000 FT | | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| △ | PIMOK | 012648N 1032008E | | | | | | | | |
| | | 113°/293° | 18.6NM | | FL 460/6500 FT ALT | 7000 FT | | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| ▲ | BONSU<br>(FIR BDRY) | 011928N 1033710E | | | | | | | | |
| | | 113°/293° | 15.4NM | | FL 460/6500 FT ALT | 7000 FT | | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| ▲ | SINJON DVOR/DME<br>(SJ) | 011321N 1035115E | | | | | | | | |

*Route remarks:*

15 min longitudinal separation.
RMK: AVBL for southbound FLT only BTN PIMOK and SJ DVOR/DME.
Southbound FLT landing at WSSS are to flight plan via ATS Route A464.
Singapore ACC FREQ:
P133.25MHz S135.8MHz (westbound)
P134.4MHz S128.1MHz (southbound)

*Point/Segment Remarks:*
(2) 5NM either side of a rhumb line joining MDN and SJ, funnelling out at 7.5° to a width of 15NM either side of track


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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **B338** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | MERSING DVOR/ DME (VMR) | 022318N 1035218E | | | | | | | | |
| | | 171°/351° | 38.1NM | | FL 460/3500 FT ALT | 4000 FT | | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| △ | 20DME PU | 014530N 1035812E | | | | | | | | |
| | | 171°/351° | 20.7NM | | FL 460/3500 FT ALT | 4000 FT | | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| ▲ | TEKONG DVOR/DME (VTK) | 012455N 1040120E | | | | | | | | |
| | | 154°/334° | 10.3NM | | FL 460/3500 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2)(3)(4) |
| ▲ | ENVUM (WSJC/WIIF FIR BDRY) (Delegated airspace BDRY) | 011535N 1040552E | | | | | | | | |
| | | 154°/334° | 13.5NM | | FL 600/3500 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | IRTAD | 010326N 1041147E | | | | | | | | |
| | | 154°/334° | 7.9NM | | FL 600/3500 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | AKVOM | 005620N 1041514E | | | | | | | | |
| | | 154°/334° | 8.1NM | | FL 600/3500 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | IDMAS | 004900N 1041848E | | | | | | | | |
| | | 153°/333° | 73.6NM | | FL 600/3500 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | ANITO | 001700S 1045200E | | | | | | | | |

*Route remarks:*
Flights above FL370 between ENVUM and ANITO, see AIP Indonesia ENR2.1.

*Point/Segment Remarks:*
(2) Segment from MERSING to VTK use:
P133.8MHz
S127.3MHz
(3) Kuala Lumpur/Singapore FIR boundary approximately 1.2NM north of VTK
(4) Segment from VTK to ANITO use:
P134.4MHz
S128.1MHz

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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓/↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **B469** | | *Route availability:* (1) H24 | | | | | | | | |
| ▲ | PEKAN DVOR/DME (VPK) | 032259N 1032524E | | | | | | | | |
| | | 155°/335° | 14.9NM | | FL 460/7500 FT ALT | 8000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2) |
| △ | PADLI | 030918N 1033133E | | | | | | | | |
| | | 155°/335° | 17.1NM | | FL 460/7500 FT ALT | 8000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2) |
| ▲ | 90DME PU (Delegated Airspace BDRY) | 025341N 1033836E | | | | | | | | |
| | | 155°/335° | 11.0NM | | FL 460/7500 FT ALT | 8000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2) |
| ▲ | BIKTA | 024337N 1034308E | | | | | | | | |
| | | 155°/335° | 22.2NM | | FL 460/7500 FT ALT | 8000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2) |
| ▲ | MERSING DVOR/DME (VMR) | 022318N 1035218E | | | | | | | | |
| | | 176°/356° | 27.9NM | | FL 460/3000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2) |
| △ | 30DME PU | 015520N 1035405E | | | | | | | | |
| | | 176°/356° | 9.9NM | | FL 460/2000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2) |
| △ | AKOMA | 014522N 1035443E | | | | | | | | |
| | | 176°/356° | 10.0NM | | FL 460/2000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](2)(3) |
| △ | 10DME PU | 013523N 1035522E | | | | | | | | |
| | | 176°/356° | 10.0NM | | FL 460/GND | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](3) |
| ▲ | PAPA UNIFORM DVOR/DME (PU) | 012524N 1035600E | | | | | | | | |
| | | 201°/021° | 12.9NM | | FL 460/3000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](3) |
| ▲ | SINJON DVOR/DME (SJ) | 011321N 1035115E | | | | | | | | |
| | | 156°/336° | 2.2NM | | FL 460/2000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](3) |
| ▲ | ATLIR (WSJC/WIIF FIR BDRY) (Delegated Airspace BDRY) | 011120N 1035208E | | | | | | | | |
| | | 158°/338° | 13.5NM | | FL 600/2000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150] [Class B - BLW FL150](3) |
| ▲ | OMDUD | 005847N 1035714E | | | | | | | | |


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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | | 158° / 338° | 14.5NM | | FL 600 / 2000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](3) |
| ▲ | BAVAL | 004518N 1040242E | | | | | | | | |
| | | 156° / 336° | 27.0NM | | FL 600 / 2000 FT ALT | 5000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](3) |
| ▲ | POSOG | 002024N 1041323E | | | | | | | | |
| | | 156° / 336° | 53.5NM | | FL 600 / 2000 FT ALT | 4000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](3) |
| ▲ | ENPUX | 002859S 1043434E | | | | | | | | |

*Route remarks:*
Flight Planning Instructions:
Flights overflying Singapore FIR to destinations in Jakarta FIR and beyond to flight plan via B470 ANITO.

*Point/Segment Remarks:*
(2) Segment from VPK to AKOMA use:
P133.8MHz
S127.3MHz
(3) Segment from AKOMA to ENPUX use:
P134.4MHz
S128.1MHz

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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **B470** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | SINJON DVOR/DME (SJ) | 011321N 1035115E | | | | | | | | |
| | | 145° / - | 2.2NM | | FL 460 / 2000 FT ALT | 3000 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | VEPGA (WSJC/WIIF FIR BDRY) (Delegated airspace BDRY) | 011131N 1035232E | | | | | | | | |
| | | 146° / - | 16.0NM | | FL 600 / 2000 FT ALT | 3000 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | IRPUG | 005813N 1040127E | | | | | | | | |
| | | 146° / - | 11.9NM | | FL 600 / 2000 FT ALT | 3000 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | UDONI | 004818N 1040806E | | | | | | | | |
| | | 146° / - | 78.5NM | | FL 600 / 2000 FT ALT | 5000 FT | 10 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | ANITO | 001700S 1045200E | | | | | | | | |

*Route remarks:*
Unidirectional route (southbound) for flights from Singapore FIR to Jakarta FIR and beyond.
For flights to these destination aerodromes: WICC, WIHH, WIII, WAHH, WAHS - FL300, FL320, FL340, FL360, FL380 and FL400 are available.
Flight Planning Instructions:
All departures from WIDD and WIDN to WIKK, WIII, WIHH, WICA, WAHH, WAHI to flight plan via KIRDA W26 PKP B470 or ANITO B470.
Singapore ACC FREQ:
P134.4MHz S128.1MHz
Flights above FL370 from VEPGA to ANITO, see AIP Indonesia ENR 2.1.

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **G219** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | NIVAM | 023650N 1040228E | | | | | | | | |
| | | 180°<br>000° | 41.7NM | | FL 460<br>10500 FT ALT | 11000 FT | | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| △ | 30VTK<br>(30 DME VTK) | 015454N 1040159E | | | | | | | | |
| | | 181°<br>001° | 29.8NM | | FL 460<br>3000 FT ALT | 4000 FT | | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| ▲ | TEKONG DVOR/DME<br>(VTK) | 012455N 1040120E | | | | | | | | (3) |

*Route remarks:*
Singapore ACC FREQ:
P123.7 MHz, S127.3 MHz

*Point/Segment Remarks:*
(2) Lateral Limits:
The eastern and western airway sectors are enclosed by a line joining
023705N 1041200E
015610N 1041200E
015100N 1041442E
012454N 1041442E
012454N 1035620E
023705N 1035729E
023705N 1041200E.
(3) Singapore/Kuala Lumpur FIR boundary approximately 1.2NM north of VTK.

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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **G334** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| △ | IDEMO | 025431N 1040603E | | | | | | | | |
| | | 095°/275° | 22.4NM | | FL 285/FL 240 | FL 250 | 20 | Odd(1) | Even(1) | [Class A] |
| ▲ | KIBOL (WMFC/WSJC FIR BDRY) | 025224N 1042818E | | | | | | | | |
| | | 097°/277° | 42.5NM | | FL 285/FL 240 | FL 250 | 20 | Odd(1) | Even(1) | [Class A] |
| ▲ | EMSUX (WSJC/WIIF FIR BDRY) (Delegated Airspace BDRY) | 024647N 1051026E | | | | | | | | |
| | | 095°/275° | 33.7NM | | FL 285/FL 240 | FL 250 | 20 | Odd(1) | Even(1) | [Class A - ABV FL150] |
| ▲ | IRSAB (Delegated Airspace BDRY) | 024349N 1054359E | | | | | | | | |

*Route remarks:*
10 min longitudinal separation between RNAV-equipped aircraft applying Mach Number Technique.
15 min longitudinal separation between other aircraft.
Singapore ACC FREQ:
P134.7MHz S134.15MHz
Flight Planning Instructions:
Non-PBN and Non-RVSM equipped aircraft on ATS route G334:
1. To destinations other than WMKK to flight plan via G334-KIBOL-VPK.
Alternative route to G334 for non-PBN equipped aircraft to destinations within WMFC may flight plan via G580-HOSBA-VJB-A457.
2. For departure from WMFC to flight plan via VPK-KIBOL-G334.
Alternative route to G334 for non-PBN equipped aircraft for departure from WMFC may flight plan via A464-TOPOR-W534-VJB-HOSBA-G580.

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **G579** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | JOHOR BAHRU DVOR/DME (VJB) | 013950N 1033939E | | | | | | | | |
| | | 162°/342° | 10.3NM | | FL 460/6500 FT ALT | 7000 FT | 3 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| ▲ | GUMPU | 013000N 1034243E | | | | | | | | |
| | | 152°/332° | 4.1NM | | FL 460/2000 FT ALT | 7000 FT | 3 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2)(3) |
| △ | LAPOL | 012622N 1034435E | | | | | | | | |
| | | 153°/333° | 6.1NM | | FL 460/2000 FT ALT | 11000 FT | 3 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| △ | LEGOL | 012053N 1034723E | | | | | | | | |
| | | 152°/332° | 8.4NM | | FL 460/2000 FT ALT | 3000 FT | 3 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2) |
| ▲ | SINJON DVOR/DME (SJ) | 011321N 1035115E | | | | | | | | |
| | | -/346° | 2.2NM | | FL 460/2000 FT ALT | 4000 FT | 10 | | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](2)(4) |
| ▲ | OLNUB (WSJC/WIIF FIR BDRY) (Delegated airspace BDRY) | 011110N 1035147E | | | | | | | | |
| | | -/348° | 12.2NM | | FL 600/2000 FT ALT | 4000 FT | 10 | | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | EMSIB | 005911N 1035419E | | | | | | | | |
| | | -/348° | 15.8NM | | FL 600/2000 FT ALT | 5000 FT | 10 | | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | REMES | 004342N 1035735E | | | | | | | | |
| | | -/349° | 10.0NM | | FL 600/2000 FT ALT | 5000 FT | 10 | | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | UXATI | 003348N 1035933E | | | | | | | | |
| | | -/349° | 17.7NM | | FL 600/2000 FT ALT | 5000 FT | 10 | | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | REPOV | 001623N 1040300E | | | | | | | | |
| | | -/348° | 51.1NM | | FL 600/2000 FT | 5000 FT | 10 | | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150](4) |
| ▲ | PARDI | 003400S 1041300E | | | | | | | | |

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| Route Designator {RNP Type} | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

*Route remarks:*
Unidirectional route (Northbound) for flights from Jakarta FIR to Singapore FIR and beyond. FL310, FL330, FL350, FL370, FL390, FL410 can be assigned as flight levels for inbounds to Singapore.
Flight Planning Instructions for Direct Routing Operations (DRO):
All aircraft operating at FL290 to FL600 (both inclusive) via PARDI should flight plan using the direct route PARDI DCT PU.
Singapore ACC FREQ:
P134.4MHz S128.1MHz
Flights above FL370 from PARDI to OLNUB, see AIP Indonesia ENR2.1

*Point/Segment Remarks:*
(2) Bidirectional route between SJ and VJB.
(3) Kuala Lumpur/Singapore FIR boundary is approximately 2NM south of GUMPU.
(4) Unidirectional route from PARDI to SJ.


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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **G580** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | SINJON DVOR/DME (SJ) | 011321N 1035115E | | | | | | | | |
| | | 079°<br>259° | 33.7NM | | FL 460<br>2000 FT ALT | 3000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | HOSBA | 011948N 1042418E | | | | | | | | |
| | | 088°<br>268° | 6.5NM | | FL 460<br>6500 FT ALT | 7000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | DOWON (WSJC/WIIF FIR BDRY) | 011957N 1043048E | | | | | | | | |
| | | 088°<br>268° | 76.6NM | | FL 600<br>6500 FT ALT | 7000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | TOMAN | 012147N 1054717E | | | | | | | | |
| | | 088°<br>268° | 26.8NM | | FL 600<br>6500 FT ALT | 7000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | DODSO (Delegated Airspace BDRY) | 012225N 1061402E | | | | | | | | |

*Route remarks:*
Singapore ACC FREQ:
P134.2MHz S133.35MHz
Flights above FL370 between DOWON and DODSO, see AIP Indonesia ENR2.1.

*Point/Segment Remarks:*
-

| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **R208** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | IGARI | 065612N 1033506E | | | | | | | | |
| | | 197° / 017° | 73.9NM | | FL 460 / FL 240 | FL 250 | 20 | Odd(1) | Even(1) | [Class A] |
| ▲ | IKUKO<br>(FIR BDRY) | 054512N 1031324E | | | | | | | | |

*Route remarks:*
Portion of R208 within the Singapore FIR to be released to Lumpur ACC daily subject to coordination BTN Singapore ACC and Lumpur ACC. 15 min longitudinal separation.
Singapore ACC FREQ:
P127.3MHz, S123.7MHz
Lumpur ACC FREQ:
P132.6MHz

*Point/Segment Remarks:*
-


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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **R469** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | TAROS | 004200N 1021612E | | | | | | | | |
| | | 072°<br>252° | 56.6NM | | FL 600<br>9500 FT ALT | 10000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | ASUNA | 005948N 1030954E | | | | | | | | |
| | | 082°<br>262° | 20.2NM | | FL 600<br>5500 FT ALT | 6000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | BOBAG | 010230N 1032954E | | | | | | | | |
| | | 082°<br>262° | 23.2NM | | FL 600<br>5500 FT ALT | 6000 FT | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | SAMKO | 010530N 1035255E | | | | | | | | |

*Route remarks:*
Singapore ACC FREQ:
P133.25MHz S135.8MHz
Flights above FL370 between TAROS and SAMKO, see AIP Indonesia ENR2.1.

*Point/Segment Remarks:*
-

| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W22** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | TUSNU | 003403N 1022109E | | | | | | | | |
| | | 081° / 261° | 131.5NM | | FL 600 / 6000 FT ALT | | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | TANJUNGPINANG VOR/DME (TPG) | 005413N 1043052E | | | | | | | | |

*Route remarks:*
Singapore ACC FREQ:
P133.25MHz S135.8MHz
Flights above FL370 between TUSNU and TPG VOR/DME, see AIP Indonesia ENR 2.1.

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W24** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | ENPUX | 002859S 1043434E | | | | | | | | |
| | | 357° / 177° | 82.9NM | | FL 600 / 6000 FT ALT | | 10 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | TANJUNGPINANG VOR/DME (TPG) | 005413N 1043052E | | | | | | | | |

*Route remarks:*
Singapore ACC FREQ:
P134.4MHz S128.1MHz
Flight Planning Instructions:
All departures from WIDD and WIDN to WIPP to flight plan via ENPUX W24 NIPES PLB.
All departures from WIDD and WIDN to WILL to flight plan via ENPUX W24 PLB W21 TERKA.
All departures from WIDD and WIDN to WIJJ to flight plan via ENPUX W24 NIPES JMB.
Flights above FL370 between ENPUX and TPG VOR/DME, see AIP Indonesia ENR 2.1.

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W26** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | TANJUNGPINANG VOR/DME (TPG) | 005413N 1043052E | | | | | | | | |
| | | 152° / 332° | 61.0NM | | FL 600 / 6000 FT ALT | | 10 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | KIRDA | 000009N 1045934E | | | | | | | | |

*Route remarks:*
Singapore ACC FREQ:
P134.4MHz S128.1MHz
Flight Planning Instructions:
All departures from WIDD and WIDN to WIKK to flight plan via KIRDA W26 PKP.
All departures from WIDD and WIDN to WIII, WIHH, WICA, WAHH, WAHI to flight plan via KIRDA W26 PKP B470.
Flights above FL370 between TPG VOR/DME and KIRDA, see AIP Indonesia ENR 2.1.

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W401** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | HOSBA<br>(R079/34 DME SJ)<br>(R103/24 DME VTK) | 011948N 1042418E | | | | | | | | |
| | | 294°<br>114° | 27.6NM | | FL 245<br>2000 FT ALT | 7000 FT | 5 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | OMKOM | 013112N 1035910E | | | | | | | | |
| | | 266°<br>086° | 9.5NM | | FL 245<br>2000 FT ALT | 3000 FT | 3 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | ALFA | 013033N 1034942E | | | | | | | | |
| | | 265°<br>085° | 7.0NM | | FL 245<br>3000 FT ALT | 6000 FT | 3 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | GUMPU | 013000N 1034243E | | | | | | | | |
| | | 262°<br>082° | 18.1NM | | FL 245<br>3000 FT ALT | 6000 FT | 3 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | LELIB | 012729N 1032450E | | | | | | | | |
| | | 262°<br>082° | 4.8NM | | FL 245<br>3000 FT ALT | 6000 FT | 3 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| △ | PIMOK | 012648N 1032008E | | | | | | | | |

*Route remarks:*
Controlling Authority: Singapore ACC
Airspace below airway controlled by Johor Approach.

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W407** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | TEKONG DVOR/DME (VTK) | 012455N 1040120E | | | | | | | | |
| | | 203°<br>023° | 12.7NM | | FL 250<br>3000 FT ALT | 4000 FT | 3 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | SAPEX (WSJC/WIIF FIR BDRY) (Delegated Airspace BDRY) | 011316N 1035617E | | | | | | | | |
| | | 203°<br>023° | 8.4NM | | FL 250<br>3000 FT ALT | 4000 FT | 3 | Even(1) | Odd(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150]<br>[Class C] |
| ▲ | SAMKO | 010530N 1035255E | | | | | | | | |

*Route remarks:*
Singapore APP FREQ:
P124.6MHz S132.15MHz

*Point/Segment Remarks:*
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| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W534** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| △ | TOPOR | 014412N 1025330E | | | | | | | | |
| | | 275° / 095° | 46.5NM | | FL 460 / 4500 FT ALT | 5000 FT | 8 | Odd(1) | | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | JOHOR BAHRU DVOR/DME (VJB) | 013950N 1033939E | | | | | | | | |
| *Route remarks:*<br>-<br>*Point/Segment Remarks:*<br>- | | | | | | | | | | |

| Route Designator {RNP Type} | | [Route Usage Notes] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Significant Point Name | Significant Point Coordinates | | | | | | | | Remarks |
| {RNP Type} | | Track MAG ↓ / ↑ | Dist NM | (COP) | Upper limit / Lower limit | MNM FLT ALT | Lateral limits NM | Direction of cruising levels ↓ | Direction of cruising levels ↑ | Controlling unit Frequency {Airspace class} Remarks |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **W651** | | *Route availability:*<br>(1) H24 | | | | | | | | |
| ▲ | JOHOR BAHRU DVOR/DME (VJB) | 013950N 1033939E | | | | | | | | |
| | | 114° / 294° | 21.3NM | | FL 200 / 2500 FT ALT | 3000 FT | 3 | Odd(1) | Even(1) | [Class A - ABV FL150]<br>[Class B - BLW FL150] |
| ▲ | OMKOM | 013112N 1035910E | | | | | | | | |
| *Route remarks:*<br>-<br>*Point/Segment Remarks:*<br>- | | | | | | | | | | |


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