

## ENR 3 ATS ROUTES

## ENR 3.3 AREA NAVIGATION (RNAV) ROUTES

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)	Lateral Limits (NM)	Cruising levels		Remarks Controlling unit
				Odd	Even	
1	2	3	4	5		6
<b>L629 (RNP 10)</b>						
▲ BUVAL (FIR BDRY) 033622N 1034342E	054°	FL 460 FL 245	20	↑		Longitudinal separation of 10 mins between RNAV equipped acft.
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	22.6 NM	MNM FL 250				
<b>L635 (RNP 10)</b>						
▲ DOVOL (FIR BDRY) 033048N 1034924E	252°	FL 460 FL 245	20	↓		Longitudinal separation of 10 mins between RNAV equipped acft.
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	25.2 NM	MNM FL 250				
<b>L642 (RNP 10)</b>						
▲ EGOLO (FIR BDRY) 031936N 1040048E	009° 189°	FL 460 FL 245	20	↓		Longitudinal separation of 10 mins between RNAV equipped acft.
▲ ROBMO 025440N 1035700E	25.1 NM	MNM FL 250		↑		
▲ MERSING DVOR/DME (VMR) 022318N 1035218E	009° 189°		↑			
	31.5 NM					
<b>L645 (RNP 10)</b>						
▲ SAPAM (FIR BDRY) 080434N 0973300E	267° 087°	FL 460 FL 260 MNM FL 260	20	↓		Longitudinal Separation of 10 mins between RNAV equipped acft. applying Mach Number Technique.  <b>Controlling Authority :</b> Kuala Lumpur ACC: (P) 133.4 MHz, (S) 132.55 MHz
▲ MAPSO 080330N 0971256E	20 NM			↑		
▲ IDKUT 080017N 0953017E	268° 088°			↑		
▲ SAMAK (FIR BDRY) 075842N 0942500E	102 NM			↑		
	269° 089°			↑		
	65 NM					

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>L510 (RNP 10)</b>							
▲ EMRAN 083430N 0942500E	298° 118° 73NM	FL 460 FL275 MNM FL280		20	↓	Longitudinal separation of 10 mins btn RNAV equipped acft applying Mach Number Technique.  Note1: Unidirectional Eastbound – 24 hrs, daily  Note 2: When successive AFTM westbound flights flight planned on P628 arriving GIVAL between 1500 and 1900UTC and flights flight planned on N571/N877 arriving VAMPI between 1530 and 1930UTC do not meet the required longitudinal separation requirements, some of these flights may be rerouted onto this ATS route by KL ACC to allow the allocation of more optimal flight levels  Note 3: Operators should not flight plan westbound on L510.  Controlling Authority: Kuala Lumpur ACC – (P) 133.4 MHz (S) 132.55 MHz	
▲ IDKUT 080017N 0953017E	298° 118° 93NM						
▲ LEKIR 071632N 0965243E	284° 104° 69NM	FL 460 FL255 MNM FL260					
▲ GIVAL 070000N 0980000E							
<b>L517</b>							
▲ GULIB (FIR BDRY) 041714N 1110633E	269° 089° 133NM	FL 460 FL135 MNM FL140		20	↑	<b>No PDC arrangements FL280,            FL300 and FL340</b>  <b>Controlling Authority:</b> Miri Approach 129.9MHz and Kota Kinabalu ACC 128.3MHz. * This unidirectional RNAV route joins M758 at TERIX.	
△ TMA BDRY 041938N 1131937E	269° 089° 40NM	FL 460 A065 MNM A070					
▲ MIRI DVOR/DME (VMI) 042016N 1135939E							
<b>M522</b>							
▲ MAMOK 040506N 1154712E	008° 188° 110NM			20	↓	<b>No Pre Departure Coordination            (No PDC) arrangement :</b>  Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M754 will be cleared to FL270. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  <b>Controlling Authority :</b> Kinabalu ACC - 126.1 MHz.	
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	004° 184° 137NM	FL 460 FL135 MNM FL140					
▲ NODIN (FIR BDRY) 081100N 1161142E							
<b>M626</b>							
△ KADAX (FIR BDRY) 061556N 1021542E	153° 333° 7NM	FL 460 6500FT ALT MNM 7000FT		20	↓	<b>Controlling Authority:</b> Kuala Lumpur ACC: (P) 134.25 MHz, (S) 129.75 MHz (Below FL 150 within Kota Bharu TMA - Kota Bharu Approach (P) 120.85 MHz (S) 130.3 MHz.	
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E							

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>M644</b>							
▲ ABTOK (FIR BDRY) 061818N 1021744E	172° 352°	FL 460 FL 285		20	↓	↑	<b>Controlling Authority :</b> Kuala Lumpur ACC - (P) 134.25 MHz .(S) 129.75 MHz
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E	8NM	MNM FL290					
<b>M751</b>							
▲ GOLUD (FIR BDRY) 061706N 1021636E	163° 343°	FL 460 FL 235		20	↓		Longitudinal Separation of 10 mins between RNAV equipped acft. applying Mach Number Technique.  <b>Reporting Procedures :</b> Pilots operating on Awy M751 and destined for Kuantan, must report on RTF to Kuantan ATC before entering Kuantan TMA.  All acft on Awy M751 deviating east of track when area WMR 102B is active and other acft intending to enter these areas, shall contact Kuantan Approach or Lumpur Control as appropriate and obtain traffic information. Pilots are warned that these areas are intensively used by military acft.  <b>No Pre Departure Coordination (No PDC) arrangement :</b> Flights departing from Singapore to airports within Thailand will be cleared to all flight levels. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  <b>Controlling Authority:</b> GOLUD - A/VKN - Kuala Lumpur ACC : (P) 134.25 MHz, (S) 129.75 MHz, A/VKN - VPK - Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E	8 NM	MNM FL 240				↑	
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	158° 338° 179 NM						
<b>M754</b>							
▲ SUMLA (FIR BDRY) 080242N 1160054E	200° 020°	FL 460 FL 135		20	↓		<b>No Pre Departure Coordination (No PDC) arrangement :</b> Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M754 will be cleared to FL 270. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  <b>Controlling Authority :</b> Kinabalu ACC - 126.1 MHz
▲ VIDIP 054106N 1151003E	150 NM	MNM FL 140					
▲ UKIBA 051849N 1150209E	200° 020° 24 NM					↑	
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	200° 020° 28 NM						

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>M758</b>							
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	087° 267°						Longitudinal separation of 10 mins between RNAV equipped acft.  <b>No Pre Departure Coordination (No PDC) arrangement :</b>  Flights departing from Peninsular Malaysia to Kota Kinabalu FIR via RNAV route M758 will be cleared to FL 270, FL 290 or FL 330. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M758 will be cleared to <b>FL300, FL340 or FL380.</b> Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  <b>Controlling Authority :</b> Kinabalu ACC - 126.1 MHz
▲ IDSEL (FIR BDRY) 032430N 1035518E	30.4 NM					↓	
▲ URIGO 032505N 1040647E	-						
▲ VISAT 032620N 1043134E	-	FL 460 FL 245		20			
▲ MABAL 032826N 1051236E	-	MNM FL 250					
▲ ELGOR 033014N 1054818E	-						
▲ LUSMO 033341N 1065534E	-						
▲ TERIX 041521N 1093456E	-						
▲ OLKIT (FIR BDRY) 045012N 1115118E	077° 257°						
▲ DOGOG 052518N 1140742E	140 NM	FL 460 FL 135					
▲ VIDIP 054106N 1151003E	65 NM	MNM FL 140					
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	077° 257° 53 NM					↑	
<b>M759</b>							
▲ OLKIT (FIR BDRY) 045012N 1115118E	089° 269°	FL 460 6 500 FT ALT		20			<b>No Pre Departure Coordination (No PDC) arrangement :</b>  Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M759/M758 will be cleared to FL 310. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  <b>Controlling Authority :</b> Kinabalu ACC - 126.1 MHz
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	181 NM	MNM 7 000 FT				↑ ↓	

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>M761</b>							
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	105° 285° 46 NM	FL 460 FL 245 MNM FL 250		20	↓		Longitudinal separation of 10 mins between RNAV equipped acft.  <b>No Pre Departure Coordination (No PDC) arrangement :</b>  Flights departing from Peninsular Malaysia to Kota Kinabalu FIR via RNAV route M761 will be cleared to FL 270, FL 290 or FL 330. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M761 will be cleared to FL 280. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.  <b>Controlling Authority :</b> Kuching ACC - 134.5 MHz
▲ KETOD (FIR BDRY) 031042N 1040942E	-						
▲ OTLON 030752N 1042006E	-						
▲ KILOT 030217N 1044023E	-						
▲ LIPRO 025342N 1051128E	-						
▲ BOBOB 022206N 1070558E	-						
▲ SABIP 020942N 1075042E	106° 286° 40.8NM	FL 460 6 500 FT ALT MNM 7 000 FT					
▲ AGOBA (FIR BDRY) 015842N 1083000E	106° 286° 113 NM						
▲ KUCHING DVOR/DME (VKG) 012824.0N 1101820.7E					↑		
<b>M763</b>							
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	029° 209° 31.4 NM	FL 460 FL 245 MNM FL 250		20	↓	↑	Longitudinal separation of 10 mins between RNAV equipped acft.  All acft on Awy M763 deviating west of track when area WMR 102B is active and other acft intending to enter these area, shall contact Kuantan Approach or Lumpur Control as appropriate and obtain traffic information.
▲ TAXUL (FIR BDRY) 035036N 1034036E							
<b>M765</b>							
▲ IGARI 065612N 1033506E	059° 239° 53 NM	FL 460 FL 245 MNM FL 250		20	↓	↑	Longitudinal separation of 10 mins between RNAV equipped acft. Portion of M765 within Singapore FIR from VENLI to IGARI delegated to Lumpur ACC for provision of ATS. <b>No Pre Departure Coordination (No PDC) arrangement :</b> Flights departing from Peninsular Malaysia for Northeast bound traffic up to PANDI will be cleared to FL 270 / FL 370. For Northeast bound traffic after PANDI will be cleared to FL 290 / FL 370. <b>Controlling Authority:</b> Kuala Lumpur ACC: (P) 134.25 MHz, (S) 129.75 MHz
▲ VENLI (FIR BDRY) 062848N 1024900E	058° 238° 36 NM						
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E							

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>M768</b>							
▲ MAMOK 040506N 1154712E	311° 131°	FL 460 10500FT ALT MNM 11000FT		20	↑		No Pre Departure Coordination (No PDC) arrangement :  Flights departing from aerodromes within Kota Kinabalu FIR via RNAV route M768 will be cleared to FL 280. Succeeding acft may be cleared to same level provided 10 mins longitudinal separation using MNT exists with no closing speed.
△ TMA BDRY 041923.2N 1153036.1E	22NM 311° 131°						
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	50NM 306° 126°	FL 460 6500FT ALT MNM 7000FT		20	↓		Controlling Authority : Kinabalu ACC - 126.1 MHz
▲ DOGOG 052518N 1140742E	56NM 306° 126°						
▲ ASISU (FIR BDRY) 055906N 1132046E	58NM						
<b>M771</b>							
▲ MERSING DVOR/DME (VMR) 022318N 1035218E	032° 212° 47 NM	FL 460 FL 245 MNM FL 250		20	↓		Longitudinal separation of 10 mins between RNAV equipped acft.
▲ RAXIM (FIR BDRY) 030318N 1041712E							
<b>M772</b>							
▲ ASISU (FIR BDRY) 055906N 1132048E	019°	FL 460 FL 245 MNM FL 250		20			No Pre Departure Coordination (No PDC) arrangement: Unidirectional routing for flights between city pair of Jakarta and Hong Kong and restricted to FL300 and FL380 only.
▲ ANIRU 050911N 1130326E	53 NM						
▲ BOMPO 045100N 1125709E	019° 19 NM						Controlling Authority: Between section: 1. ANIPU - DARMU Kuching ACC - 134.5MHz. 2. DARMU - ANIRU Kinabalu ACC - 128.3MHz. 3. ANIRU - ASISU Kinabalu ACC 126.1MHz.
▲ AGUPO 043537N 1125200E	019° 16 NM						
▲ DARMU 040139N 1124036E	019° 36 NM						
▲ RIZAN 030115N 1121724E	021° 65NM						
▲ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E	021° 50NM						
▲ ANIPU (FIR BDRY) 010142N 1112725E	024° 80 NM				↑		

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>N571 (RNP 10)</b>							
▲ GUNIP 042953N 0993150E	311° 131°	FL 460 FL 275 MNM FL 280	20	↓		Longitudinal Separation of 10 mins between RNAV equipped acft. applying Mach Number Technique. Uni-Directional Routing System (Refer ENR 1.9 - 5 and ENR 1.9-8)	<p><b>No Pre Departure Coordination (No PDC) arrangement :</b></p> <p>Flights departing from WMSA/WMKK/WSSS will be cleared to FL280 or FL 300. Succeeding acft cleared to same cruising level shall be provided at least 10 mins longitudinal separation with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft following the slower acft on the same route.</p> <p><b>Note:</b> There are no ATFM requirements or flight planning restrictions for flights via N571/N877 entering Kabul FIR at SERKA then UL333 to SOKAM. However, to avoid conflicts with flights that are subjected to ATFM procedures, flights shall not flight plan via N571/N877 to enter Kabul FIR at SERKA then B466 to PAROD.</p> <p><b>Controlling Authority :</b> Kuala Lumpur ACC (P) 133.4 MHz, (S) 132.55 MHz</p>
▲ VAMPI 061056N 0973508E	154 NM						
▲ MEKAR 063014N 0962928E	286° 106°						
▲ NILAM 064523N 0955836E	68 NM						
▲ IGOGU (FIR BDRY) 073101N 0942500E	296° 116° 104 NM						
<b>N633 (RNP 10)</b>							
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	199° 019°	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓	↑	Longitudinal Separation of 10 Mins between RNAV equipped aircraft applying Mach Number Technique	<p><b>Controlling Authority:</b> Kuala Lumpur ACC (P) 123.75 MHz, (S) 132.75 MHz (Below FL 190 within Kuala Lumpur TMA - Lumpur Approach South - 119.45 MHz)</p>
△ RUMID 022016N 1013627E	24.4 NM						
▲ SALAX (FIR BDRY) 021224N 1013343E	199° 019° 8.3 NM						
<b>N884 (RNP 10)</b>							
▲ LENDA (FIR BDRY) 024124N 1043930E	069° 249°	FL 460 FL 245 MNM FL 250	20	↑		Longitudinal separation of 10 mins between RNAV equipped acft.	
▲ MERSING DVOR/DME (VMR) 022318N 1035218E	50.6 NM						
<b>N891 (RNP 10)</b>							
▲ PAPA UNIFORM DVOR/DME (PU) 012524N 1035600E	005° 185°	FL 460 FL 155 MNM FL 160	20	↑	↓	Longitudinal separation of 10 mins between RNAV equipped acft. All FPL for t/c opr on ATS RTE N891 shall include AFTN addressee WMFCZQZX	
▲ MANIM (FIR BDRY) 031430N 1040554E	109 NM						

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>N892 (RNP 10)</b>							
▲ KIBOL (FIR BDRY) 025224N 1042818E	051°						Longitudinal separation of 10 mins between RNAV equipped acft.
▲ PEKLA 023437N 1040618E	28.1 NM 051°	FL 460 FL 135 MNM FL 140		20	↓		
▲ MERSING DVOR/DME (VMR) 022318N 1035218E	18 NM						
<b>P501 (RNP 10)</b>							
▲ ARAMA 013654N 1030712E	147°						Controlling Authority : LUMPUR ACC (P) 133.4 MHZ (S) 132.55 MHZ  Singapore ACC P 133.25 MHZ S 135.8 MHZ
▲ ANBUS (FIR BDRY) 011556N 1032102E	25 NM	FL460 9 500 FT ALT  MNM 10 000 FT		10 NM on the western side and 5 NM on the eastern side of line joining ARAMA to BOBAG	↓		
<b>P574 (RNP 10)</b>							
▲ ANSAX (FIR BDRY) 060000N 0953029E	299° 119°						Longitudinal Separation of 10 mins between RNAV equipped acft. applying Mach Number Technique.  <b>No Pre Departure Coordination (No PDC) arrangement :</b> Flights departing from WMSA/ WMKK /WSSS will be cleared to FL 280 or FL 300. Succeeding acft cleared to same cruising level shall be provided at least 10 mins longitudinal separation with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft following the slower acft on the same route.  <b>Controlling Authority:</b> Kuala Lumpur ACC: (P) 133.4 MHz, (S) 132.55 MHz
▲ IGEBO 061409N 0950451E	30 NM 299° 119°	FL 460 FL 275 MNM FL 280		20	↓		
▲ NOPEK (FIR BDRY) 063614N 0942500E	45 NM				↑		



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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>P627 (RNP 10)</b>							
▲ RUSSET (FIR BDRY) 074616N 0974257E	240° 060°	13.8 NM 44.2 NM 62.1 NM 21.0 NM 40.9 NM 28.5 NM	FL 460 FL 240 MNM FL 250	20		↓	Longitudinal Separation of 10 Mins between RNAV equipped aircraft applying Mach Number Technique..  <b>Controlling Authority :</b> Kuala Lumpur ACC (P) 133.4 MHz, (S) 132.55 MHz
▲ DUKUN 073856N 0973109E	240° 060°						
▲ LEKIR 071632N 0965243E	240° 060°						
▲ NILAM 064523N 0955835E	240° 060°						
▲ SANOB 063510N 0954009E	240° 060°						
▲ IGEBO 061409N 0950451E	240° 060°						
▲ POVUS (FIR BDRY) 060000N 0943958E	240° 060°						
<b>P628 (RNP 10)</b>							
▲ IGREX (WMFC/VOMF BDRY) 094328N 0942500E	301°	111 NM 83 NM 30 NM 49 NM	FL 460 FL 275 MNM FL 280	20		↑	Longitudinal Separation of 10 mins between RNAV equipped acft. applying Mach Number Technique. <b>Note 1 :</b> <b>Unidirectional Westbound between GIVAL and IGREX - 24 hrs daily.</b> <b>Note 2 :</b> <b>Bi-directional between VPL and GIVAL - 24 hrs daily.</b> <b>Note 3:</b> <b>All westbound flights on P628 which are not subject to ATFM measures when transiting through KL FIR to destinations in South Asia, Middle East and Europe are required to file the FPL as follows:</b> <b>(1) FL360 or above for flights estimates IGREX btn 1600 and 1930 UTC. Flights which are unable to comply during these periods are advised to use alternate route.</b>  <b>Controlling Authority :</b> Kuala Lumpur ACC (P) 133.4 MHz, (S) 132.55 MHz
▲ MINAT 084618N 0960131E	301°						
▲ MAPSO 080330N 0971256E	324°						
▲ DUKUN 073856N 0973109E	324°						
▲ GIVAL 070000N 0980000E	290° 110°						
▲ LANGKAWI DVOR/DME (VPL) 062119.5N 0994450.6E	111 NM	FL 460 10 000 FT ALT	20		↓		

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)		Odd	Even	
1	2	3	4	5		6
<b>P648</b>						
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	218° 038°	FL 460 6500FT ALT	20	↑		<b>Controlling Authority:</b> 1. VJN DVOR/DME to 80 DME VJN: Kinabalu ACC - 126.1 MHz. 2. 80 DME VJN to OKADA: Kinabalu ACC - 128.3 MHz. # Except that part of ATS route within Brunei TMA - Brunei Approach - 127.1 MHz.
▲ 80 DME VJN 045105N 1151240E	79.5NM 218° 038°					
▲ BUTAX 041613N 1145232E	32NM 218° 038°					
△ UDERO 035550N 1142940E	38NM 218° 038°	FL 460 FL135		↓		
△ ALEMO 024545N 1133420E	90NM 218° 038°	MNM FL140 FL 460 FL245				
▲ OKADA (FIR BDRY) 013400N 1123800E	91NM	MNM FL250				
<b>Y331</b>						
▲ TAXUL (FIR BDRY) 035036N 1034036E	253° 073°	FL 460 FL 245	20	↓		<b>Controlling Authority :</b> Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz
▲ KUANTAN TMA BDRY WEST 033346N 1024545E	57NM 253° 073°	MNM FL250 FL 460 FL 145				
△ PIBOS 032106N 1020316E	45NM	MNM FL150				
<b>Y332</b>						
▲ TAXUL (FIR BDRY) 035036N 1034036E	192° 42NM	MNM FL250	20	↓		<b>Arrival RWY 32 from L642 M763</b> <b>Controlling Authority :</b> Lumpur Control (P) 132.6 MHz (S) 133.65 MHz  Singapore ACC 133.8 MHz
▲ PADLI 030918N 1033133E						
<b>Y333</b>						
▲ BUVAL (FIR BDRY) 033622N 1034342E	024° 30 NM	FL 460 FL 245	20	↑		<b>Outbound only</b> <b>Departure RWY 14 joining L629 M771</b> <b>Controlling Authority :</b> Lumpur Control (P) 132.6 MHz (S) 133.65 MHz  Singapore ACC 133.8 MHz
▲ PADLI 030918N 1033133E		MNM FL 250				

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
<b>Y334</b>							
▲ DOVOL (FIR BDRY) 033048N 1034924E	220° 28 NM	FL 460 FL 245		20	↓		Arrival RWY 32 from N892 L635  Controlling Authority : Lumpur Control (P) 132.6 MHz (S) 133.65 MHz  Singapore ACC 133.8 MHz
▲ PADLI 030918N 1033133E		MNM FL 250					
<b>Y335</b>							
▲ IDSEL (FIR BDRY) 032430N 1035518E	058° 238° 29 NM	FL 460 FL 245		20	↓		Arrival RWY 32 from M758  Departure RWY 14 joining M758  Controlling Authority : Lumpur Control (P) 132.6 MHz (S) 133.65 MHz  Singapore ACC 133.8 MHz
▲ PADLI 030918N 1033133E		MNM FL 250					
<b>Y336</b>							
▲ KETOD (FIR BDRY) 031042N 1040942E	088° 268° 38 NM	FL 460 FL 245		20	↓		Arrival RWY 32 from M761  Departure RWY 14 joining M761  Controlling Authority : PADLI-ISTAN - Kuala Lumpur ACC: (P) 132.6 MHz (S) 133.65 MHz  Singapore ACC 133.8 MHz
▲ PADLI 030918N 1033133E		MNM FL 250					
▲ ISTAN 030055N 1022853E	082° 262° 63 NM	FL 460 FL 135 MNM FL 140			↑		
<b>Y337</b>							
▲ GIVAL 070000N 0980000E	307° 127° 170 NM	FL 460 FL 280		20	↑		Controlling Authority : VPG - A/VPL - Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz, A/VPL - GIVAL - Kuala Lumpur ACC: (P) 133.4 MHz, (S) 132.55 MHz  Westbound only OPS hours: 1500 - 2030 UTC
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E		MNM FL 280					

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits	Lateral Limits (NM)	Cruising levels		Remarks Controlling unit
		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)		Odd	Even	
1	2	3	4	5		6
<b>Y338 (Conditional Route)</b>						
▲ LEKIR 071632N 0965243E	327° 147°  78NM	FL 460 FL 255  MNM FL 260	20			Note 1: Unidirectional westbound between 1530 and 1930 UTC at <b>VAMPI</b>  Note 2: When successive ATFM westbound flights flight planned on N571/N877 arriving VAMPI between 1530 and 1930 UTC do not meet the required longitudinal separation requirements, some of these flights may be re-routed onto L510 via Y338 by KL ACC to allow the allocation of more optimal flight levels.  Controlling Authority: Kuala Lumpur ACC - 133.4 MHZ
▲ VAMPI 061056N 0973508E					↑	
<b>Y445</b>						
▲ LEDAM 045149N 1134706E	339° 159°  72 NM	FL 460 FL 195	20			Controlling Authority : Kinabalu ACC
▲ ASISU 055906N 1132046E				↑	↓	
<b>Y446</b>						
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	092° 272° 120 NM	FL 460 FL 135 MNM FL 140	20		↓	Longitudinal separation of 10 minutes between RNAV equipped aircraft. No Pre Departure Coordination (No PDC) arrangement: Flights departing from aerodromes with Kota Kinabalu FIR via RNAV route Y446 joining M768 and Y447 joining M758 will be cleared to FL300. Succeeding aircraft may be cleared to same level provided 10 minutes longitudinal separation using MNT exists with no closing speed. Controlling Authority: Kinabalu ACC - 126.1 MHZ Y447 is a diversionary route for RNAV route M758 between OLKIT and VJN DVOR avoiding Danger Area which is activated by NOTAM.
▲ PADLO (R272/120D VJN DVOR) 055752N 1140126E	092° 272° 41 NM	FL 460 FL 245 MNM FL 250		↑		
▲ ASISU (FIR BDRY) 055906N 1132046E						
<b>Y447</b>						
▲ PADLO (R272/120D VJN DVOR) 055752N 1140126E	062° 242° 147 NM	FL 460 FL 245 MNM FL 250			↓	
▲ OLKIT (FIR BDRY) 045012N 1115118E			↑			