

ENR 3 ATS ROUTES

ENR 3.1 LOWER AND UPPER ATS 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)	Latera l Limits (NM)	Cruising levels		Remarks Controlling unit
				Odd	Even	
1	2	3	4	5		6
A211						
▲ TAWAU DVOR/DME (VTW) 041928N 1180824E	<u>210°</u> 030° 19.7 NM	<u>FL 460</u> 6 500 FT ALT MNM 7 000 FT	20	↑	↓	
▲ BAXAL (FIR BDRY) 040220N 1175834E						
A224						
▲ JOHOR BAHRU DVOR/DME (VJR) 014347.5N 1033717.9E	<u>021°</u> 201° 42.1 NM	<u>FL 460</u> 5 500 FT ALT MNM 6 000 FT	10	↓	↑	Controlling Authority: Johor Approach 124.7 MHz
▲ MERSING DVOR/DME (VMR) 022318N 1035218E						
A334						
▲ PASVA (FIR BDRY) 061529N 1020431E	<u>112°</u> 292° 15.4 NM	<u>FL 460</u> FL 135 MNM FL 140	20	↓	↑	Controlling Authority: Kuala Lumpur ACC (P) 134.25 MHz, (S) 129.75 MHz
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E						
A341						
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	<u>090°</u> 270° 61 NM	<u>FL 460</u> FL 165 MNM FL 170	20	↓		Controlling Authority: Kota Kinabalu ACC - 126.1 MHz
△ TOMUD 055413N 1170308E	<u>090°</u> 270° 61 NM					
▲ SANDAKAN DVOR/DME (VSN) 055413.6N 1180429.6E	<u>076°</u> 256° 29 NM	<u>FL 460</u> 7 500 FT ALT MNM 8 000 FT				
▲ VIMAG (FIR BDRY) 060136N 1183236E					↑	

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits		Latera l 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
A457							
▲ TAMOS 063146N 1002341E	360° 180°						Flight planning guideline and Uni-Directional Routing System (Refer ENR 1.9 - 9 - Enr 1.9 - 15) Controlling Authority: VJR - VKL : Kuala Lumpur ACC (P) 123.75 MHz (S) 132.75 MHz VKL - TAMOS : Kuala Lumpur ACC (P) 132.8 MHz, (S) 133.55 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz. Tolerances of Airways infringe WMD222 Asahan (activated by NOTAM) - Military activities.
▲ ALOR STAR DVOR/DME (VAS) 061108.4N 1002349.2E	21 NM	FL 460 6 500 FT ALT MNM 7 000 FT		20	↓ ↑		
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E	009° 189°						
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E	55 NM						
△ TEPUS 041013N 1004533E	73 NM						
△ TEPUS 041013N 1004533E	335°						
△ SUKAT 033525N 1010112E	38 NM						
△ SUKAT 033525N 1010112E	335°						
△ BILIK 032043N 1010739E	16 NM						
△ BILIK 032043N 1010739E	335°						
△ AGOSA 030841N 1011309E	13NM						
△ AGOSA 030841N 1011309E	309°	FL 460 6 500 FT ALT MNM 7 000 FT		20			
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	40 NM						
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	302°						
△ SAPAT 023210N 1020230E	21 NM						
△ SAPAT 023210N 1020230E	302°						
△ ENKOL 022222N 1021816E	19 NM						
△ ENKOL 022222N 1021816E	302°						
△ GUPTA 020948N 1023830E	24 NM						
△ GUPTA 020948N 1023830E	294°				↑		
△ KASRI 020317N 1025313E	16 NM						
△ KASRI 020317N 1025313E	294°	FL 460 4 500 FT ALT MNM 5 000 FT					
▲ JOHOR BAHRU DVOR/DME (VJR) 014347.5N 1033717.9E	48 NM						

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
A464							
▲ KARMI (FIR BDRY) 062940N 1003121E	163° 119.7 NM	FL 460 8 500 FT ALT MNM 9 000 FT		20	↓	Uni-Directional Routing System (Refer ENR 1.9 - 9 - ENR 1.9 - 15) Controlling Authority: KARMI - VKL : Kuala Lumpur ACC (P) 132.8 MHz, (S) 133.55 MHz VKL - MASNI (FIR BDRY) : Kuala Lumpur ACC: (P) 123.75 MHz (S) 132.75 * 5 NM either side of track to SJ.	
△ IPOH DVOR/DME (VIH) 043422.9N 1010537.0E	164°	FL 460 5 500 FT ALT MNM 6 000 FT					
△ DAKUS 034814N 1011903E	47.8 NM	FL 460 5 500 FT ALT MNM 6 000 FT					
△ BATU ARANG DVOR/DME (VBA) 031929.3N 1012724.9E	164° 29.8 NM	FL 460 3 500 FT ALT MNM 4 000 FT					
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	155° 39.6 NM	FL 460 3 500 FT ALT MNM 4 000 FT					
△ DUMOK 021757N 1020015E	148° 30.0NM						
△ BATAR 021000N 1020513E	148° 9.3 NM						
△ OGAKO 015850N 1022608E	118° 23.7 NM	FL 460 5 500 FT ALT MNM 6 000 FT					
△ TOPOR 014412N 1025330E	118° 31.0 NM						
▲ ARAMA (50 DME SJ) 013654N 1030712E	118° 15.5 NM	FL 460 3 500 FT ALT MNM 5 500 FT					
△ 35 DME SJ 012954N 1032024E	117° 14.9 NM	FL 460 3 000 FT ALT MNM 5 500 FT					
△ LELIB 012729N 1032450E	118° 5 NM						
▲ MASNI (FIR BDRY) 012037N 1033746E	117° 14.6 NM	FL 460 3 000 FT ALT MNM 5 500 FT					
▲ SINJON DVOR/DME (SJ) 011321N 1035115E	118° 15.3 NM						
				10 *			

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
A576							
▲ SALAX (FIR BDRY) 021224N 1013343E	113° 293°	FL 460 6 500 FT ALT MNM 7 000 FT		*	↓	↑	10 mins longitudinal separation * Lateral Limits: 5 NM either side of a rhumb line joining MDN VOR/DME and SJ DVOR/DME funnelling out at an angle of 7½° either side of track terminating at the points where the width 15 NM either side of the rhumb line track. Controlling Authority: SALAX - BONSU (FIR BDRY) : Kuala Lumpur ACC (P) 123.75 MHz (S) 132.75 MHz
▲ REKOP (50 DME SJ) (Delegated airspace boundary) 013306N 1030521E	99 NM						
▲ PIMOK 012648N 1032008E	113° 293°						
▲ BONSU (FIR BDRY) 011928N 1033710E	16 NM						
▲ SINJON DVOR/DME (SJ) 011323.9N 1035117.8E	113° 293°						
	19 NM						
	113° 293°						
	15 NM						
B219							
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E	066° 246°	FL 460 FL 135 MNM FL 140		20	↓	↑	Controlling Authority: Kuala Lumpur ACC (P) 134.25 MHz, (S) 129.75 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E	133.7 NM						
B338							
▲ MERSING DVOR/DME (VMR) 022318N 1035218E	171° 351°	FL 460 3 500 FT ALT MNM 4 000 FT			↓	↑	Controlling Authority: Singapore ACC (P) 133.8 MHz (S) 123.7 MHz
△ 20 DME PU 014530N 1035812E	38.0 NM						
▲ TEKONG DVOR/DME (VTK) 012455N 1040120E	171° 351°						
	21.0 NM						

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)	Latera l Limits (NM)	Cruising levels		Remarks Controlling unit
				Odd	Even	
1	2	3	4	5		6
B348						
▲ OSANU (FIR BDRY) 074124N 1171736E		FL 460				Controlling Authority : 1. OSANU - BRU DVOR/DME Kinabalu ACC - 126.1 MHz 2. BRU DVOR/DME - DARMU Kinabalu ACC - 128.3 MHz 3. DARMU - KAMIN Kuching ACC - 134.5 MHz # except that part of ATS route within Brunei TMA - Brunei Approach - 127.1 MHz
	215° 035°	FL 135				
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	130.1 NM	MNM FL 140				
	228° 048°	FL 460				
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	92.0 NM	6 500 FT ALT MNM 7 000 FT ALT				
	249° 069°	FL 460	20			
△ 50 DME BRU 043437N 1140607E	50.0 NM	7 500 FT ALT MNM 8 000 FT ALT				
	249° 069°	FL 460				
△ SAKMA 042428N 1133955E	28.0 NM	FL 460				
▲ DARMU 040139N 1124036E	63.5 NM	FL 135 MNM FL 140				
	249° 069°					
▲ KAMIN (FIR BDRY) 023442N 1085536E	241 NM					
B466						
▲ JOHOR BAHRU DVOR/DME (VJR) 014347.5N 1033717.9E	306° 30NM	FL 460 4 500 FT ALT MNM 5 000 FT				10 min longitudinal separation . Flight Planning : Westbound flight planning permitted subject to Uni-Directional Routing System. (Refer ENR 1.9 - 9 - ENR 1.9 - 15) Eastbound flight planning from VBA to VJR not permitted. Controlling Authority : VJR - A/ VKL - Kuala Lumpur ACC (P) 123.75 MHz (S) 132.75 MHz (below FL190 within Kuala Lumpur TMA - Lumpur Approach North 124.2 MHz) A/ VKL - GUNIP: - Kuala Lumpur ACC (P) 132.8 MHz, (S) 133.55 MHz GUNIP - ANOKO: Kuala Lumpur ACC (P) 133.4 MHz, (S) 132.55 MHz * 5 NM from overhead VBA DVOR/DME funnelling out at 5° either side of centreline to BOSTI, then 50 NM either side of centreline until Kuala Lumpur / Chennai FIR BDRY.
△ TERUS 020135N 1031309E	306° 51.3NM	FL 460 11 500 FT ALT MNM FL130	20			
△ GEMAS 023200N 1023150E	306° 79.9NM					
▲ BATU ARANG DVOR/DME (VBA) 031929.3N 1012724.9E	301° 121°					
△ SUKAT 033525N 1010112E	301° 121°	FL 460 8 500 FT ALT MNM 9 000 FT	*			
▲ GUNIP 042953N 0993150E	302° 122°					
▲ TASEK (FIR BDRY) 051529N 0981756E	86.6 NM	FL 275 8 500 FT ALT				
	302° 122°	HIGHEST USABLE LEVEL FL 270				
△ BOSTI 055059N 0971957E	68NM					
▲ TOSOK (FIR BDRY) 055959N 0965957E	21.8 NM	MNM 9 000 FT	100			
	294° 144°					
▲ ANOKO (FIR BDRY) 070810N 0942458E	168.5 NM					

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
B469						
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	336° 156°	FL 460 7 500 FT ALT MNM 8 000 FT	10	↓	Controlling Authority : Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz	
△ PADLI 030918N 1033133E	15 NM 336° 156°					
▲ 90 DME PU 025341.4N 1033829.8E	17 NM 336° 156°	FL 460 2 000 FT ALT MNM 4 000 FT	*	↑	Controlling Authority : Singapore ACC: (P) 127.3 MHz, (S) 123.7 MHz	
△ BIKTA 024337N 1034308E	11 NM 336° 156°					
▲ MERSING DVOR/DME (VMR) 022318N 1035218E	22.2 NM 356° 176°	FL 460 3 000 FT ALT	*	↑	* Lateral Limits : The eastern and western airways sectors are enclosed by a line joining 022830N 1035510E, 015100N 1041442E, 013542N 1041430E, 012550N 1040115E to a point 5 NM West of PU DVOR/DME and northward to a point 5 NM West of VMR DVOR/DME.	
△ 30 DME PU 015517.7N 1035459.7E	28 NM 356° 176°	FL 460 2 000 FT ALT MNM 4 000 FT				
△ AKOMA (20 DME PU) 014522N 1035443E	10 NM 356° 176°	FL 460 GND MNM 4 000 FT		↑	** FIR Bdry Aprx 0.5 NM North of PU	
△ 10 DME PU 013523.0N 1035522.0E	10 NM 356° 176°					
▲ PAPA UNIFORM ** DVOR/DME (PU) 012524N 1035600E	10 NM					
B579						
▲ DALAN (FIR BDRY) 062808N 0993920E	141° 321°	FL 460 9 500 FT ALT MNM 10 000 FT	10	↓	10 min longitudinal separation between RNAV - equipped aircraft applying Mach Number Technique. Other aircraft - 15 min longitudinal separation. Entry / Exit Points : Westbound - VPL / NAGPUR Eastbound - NAGPUR / VPL Controlling Authority: Kuala Lumpur ACC (P) 132.8 MHz, (S) 133.55 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)	
▲ LANGKAWI DVOR/DME (VPL) 062119.5N 0994450.6E	8.7 NM 154° 334° 71.2 NM					
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E				↑		

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
G219							
▲ NIVAM 023650N 1040228E △ 30 DME VTK 015433.7N 1040147.7E ▲ TEKONG # DVOR/DME (VTK) 012455N 1040120E							Controlling Authority : Singapore ACC: 133.8 MHz * Lateral Limit : The eastern and western any sectors are enclosed by a line joining 023705N 1041200E, 015610N 1041200E, 015100N 1041442E, 012454N 1041442E, 012454N 1035620E, 023705N 1035729E 023705N 1041200E. # Kuala Lumpur / Singapore FIR bdry aprx 1.2 NM North of VTK.
	181° 001°	FL 460 10 500 FT ALT MNM 11 000 FT	*	↓			
	42 NM	FL 460 3 000 FT ALT MNM 4 000 FT		↑			
	181° 001°						
G334							
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E △ SAROX 024802N 1024019E △ UKASA 025245N 1033901E △ PULAU TIOMAN DVOR/DME (VPT) 025439.4N 1040603.6E ▲ KIBOL (FIR BDRY) 025224N 1042818E ▲ BUNTO 024008N 1055953E ▲ KAMIN (FIR BDRY) 023442N 1085536E ▲ PILAX 021850N 1112326E △ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E							10 mins longitudinal separation btn RNAV-equipped acft applying Mach Number Technique. 15 mins longitudinal separation btn other acft. Tolerances of AWY infringe WMD222 (Military activity - activated by NOTAM) The responsibility for the provision of ATS from Longitude 108° to Kota Kinabalu FIR is delegated to Kota Kinabalu ACC (Kuching Control) No Pre Departure Coordination (No PDC) arrangement : Flights departing from Peninsular Malaysia to airports in Kota Kinabalu FIR via G334 will be cleared to FL 250 / FL 270. Succeeding acft may be cleared to the same level provided 10 mins longitudinal separation using MNT exists with no closing speed. Flights departing from airports in Kota Kinabalu FIR to Peninsular Malaysia will be cleared to FL 260 / FL 280. Succeeding acft may be cleared to the same level provided 10 mins longitudinal separation using MNT exists with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft behind. Controlling Authority: VKL - UKASA : Kuala Lumpur ACC (P) 132.6 MHz, (S) 133.65 MHz (within Kuala Lumpur TMA: Lumpur Approach South - 119.45 MHz
	085° 265°	FL 460 6 500 FT ALT MNM 7 000 FT		↓			
	56 NM						
	085° 265°						
	59 NM						
	086° 266°						
	28 NM						
	096° 276°		20				
	21.6 NM	FL 460 FL240 MNM FL250					
	096° 276°						
	92.7 NM						
	092° 272°						
	176 NM						
096° 276°	FL 460 6 500 FT ALT MNM 7 000 FT						
148 NM							
096° 276°							
37 NM				↑			

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)			Odd	Even	
1	2	3		4	5		6
G460							
▲ KUCHING DVOR/DME (VKG) 012821.9N 1101842.9E	066° 246°	FL 460 6 500 FT ALT MNM 7 000 FT		20	↓	↑	Controlling Authority : 1. VKG DVOR/DME to VBU DVOR/DME Kuching Control - 134.5 MHz. except Sibul/Bintulu Control Zone 2. VBU DVOR/DME to BRU DVOR/DME Kinabalu ACC - 128.3 MHz. except that part of AWY within a) Brunei TMA - Brunei Approach - 127.1 MHz b) Miri TMA - Miri Approach - 122.7 MHz or 129.9 MHz
▲ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E	112 NM						
▲ BINTULU DVOR/DME (VBU) 030914.0N 1130048.0E	048° 228° 82 NM						
▲ KADMO 041215N 1140808E	047° 227° 91 NM						
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	047° 227° 61 NM						
G466							
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	010° 190°	FL 460 10 500 FT ALT MNM 11 000FT		20	↓	↑	10 min longitudinal separation between RNAV - equipped aircraft applying Mach Number Technique. No Pre Departure Coordination (No PDC) arrangement : Flights departing from Peninsular Malaysia on G466 / M765 will be cleared to FL 270 / FL 370. Succeeding acft may be cleared to the same level provided 10 mins longitudinal separation using MNT exists with with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft behind. Controlling Authority: Kuala Lumpur ACC (P) 134.25 MHz, (S) 129.75 MHz (within Kuala Lumpur TMA - Lumpur Approach North - 124.2 MHz
△ PULIP 034024N 1015348E	58 NM						
△ 35 DME VKB 053518N 1021304E	010° 190° 116 NM						
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E	010° 190° 35 NM						
G468							
▲ PENANG DVOR/DME(VPG) 051646.7N 1001537.4E	044° 224°	FL460 8 500 FT ALT MNM 9 000 FT		20	↓	↑	Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)
△ GUNIP 042953N 0993150E	64 NM						
▲ GOTLA (FIR BDRY) 041729N 0991956E	044° 224° 17 NM						
G579							
▲ JOHOR BAHRU DVOR/DME (VJR) 014347.5N 1033717.9E	338° 158°	FL 460 6 500 FT ALT MNM 7 000 FT		3	↓	↑	Controlling Authority: Within Johor Bharu TMA - Johor Approach 124.7 MHz
▲ JAYBEE NDB (JB) 013000N 1034242E	15 NM						
▲ SINJON DVOR/DME (SJ) 011323.9N 1035117.8E	332° 152° 18.6 NM						
		FL 460 2 000 FT ALT MNM 3 000 FT					

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)		Odd	Even	
1	2	3	4	5		6
G580						
▲ NIMIX 012454N 1075924E	<u>089°</u> 269°	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓		No Pre Departure Coordination (No PDC) arrangement : Flights departing from Sarawak to Singapore will be cleared to FL 260 / FL 280. Succeeding acft may be cleared to the same level, provided 10 mins longitudinal separation using MNT exists and with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft behind. Controlling Authority : 1. NIMIX to SARVO Kuching ACC - 134.5 MHz 2. SARVO to BRU DVOR/DME Kinabalu ACC - 128.3 MHz (except that part of ATS route within Brunei TMA - Brunei Approach - 127.1 MHz).
▲ ATETI (FIR BDRY) 012542N 1083000E	30.6 NM					
▲ KUCHING DVOR/DME (VKG) 012821.9N 1101842.9E	<u>089°</u> 269° 109 NM					
▲ PILAX 021850N 1112326E	<u>052°</u> 232° 82 NM					
▲ SARVO 032630N 1125010E	<u>052°</u> 232° 110 NM					
▲ MIRI DVOR/DME (VMI) 042016.0N 1135939.0E	<u>052°</u> 232° 88 NM					
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	<u>059°</u> 239° 62 NM					
G582						
▲ PUGER (FIR BDRY) 032359N 1001731E	<u>093°</u> 273°	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓		Longitudinal separation 10 mins between RNAV equipped aircraft applying Mach Number Technique. Restriction : Eastbound flight on G582 to reach FL250 or above by 78 DME VBA. No Pre Departure Coordination (No PDC) arrangement : Flights departing from Peninsular Malaysia to Kota Kinabalu on G582 joining M758 or M761 will be cleared to FL 270, FL 290 or FL 330. Succeeding acft may be cleared to the same level, provided 10 mins longitudinal separation using MNT exists with no closing speed. Additional longitudinal separation shall be provided by ATC for faster acft behind.
△ GOBAS 032123N 1005722E	40 NM					
△ BILIK 032043N 1010739E	<u>093°</u> 273° 11 NM					
▲ BATU ARANG DVOR/DME (VBA) 031929.3N 1012724.9E	<u>093°</u> 273° 20 NM					
△ PIBOS 032106N 1020316E	<u>088°</u> 268° 36 NM	FL 460 8 500 FT ALT MNM 9 000 FT		↑		Controlling Authority: PUGER - VBA - Kuala Lumpur ACC (P) 132.8 MHz, (S) 133.55 MHz VBA - VPK : Kuala Lumpur ACC (P) 132.6 MHz, (S) 133.65 MHz (within Kuala Lumpur TMA - Lumpur Approach North - 124.2 MHz)(within Kuantan TMA - Kuantan Approach - 119.7 MHz)
△ ADNUT 032133N 1023738E	<u>088°</u> 268° 35 NM					
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	<u>088°</u> 268° 48 NM					

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		Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)		Odd	Even	
1	2	3	4	5		6
G584						
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	069° 249° 48 NM	FL 460 6 500 FT ALT	20	↓	↑	<p>Longitudinal separation of 10 mins between RNAV equipped aircraft applying Mach Number technique.</p> <p>No Pre Departure Coordination (No PDC) arrangement :</p> <p>Flights departing from Peninsular Malaysia to Kota Kinabalu FIR on G584 joining M758 or M761 will be cleared to FL 270, FL 290 or FL 330. Succeeding acft may be cleared to the same level, provided 10 mins longitudinal separation using MNT exists with no closing speed.</p> <p>Controlling Authority: Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz (within Kuala Lumpur TMA - Lumpur Approach South - 119.45 MHz)</p>
△ ISTAN 030055N 1022853E	069° 249° 61 NM	MNM 7 000 FT				
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E						
R208						
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	027° 207° 41 NM	FL 460 8 500 FT ALT MNM 9 000 FT	20	↓	↑	<p>Longitudinal separation of 10 mins between RNAV equipped aircraft applying Mach Number Technique.</p> <p>Other aircraft - 15 mins longitudinal separation.</p> <p>Portion of R208 from IKUKO to IGARI within Singapore FIR to be released to Kuala Lumpur ACC daily, subject to coordination between Singapore and Kuala Lumpur ACC.</p> <p>Controlling Authority: Kuala Lumpur ACC: (P) 134.25 MHz, (S) 129.75 MHz (within Kuala Lumpur TMA - Lumpur Approach North - 124.2 MHz)</p>
△ PIBOS 032106N 1020316E	027° 207° 7 NM					
△ MATSU 032614N 1020614E	027° 207° 96 NM					
△ GUNBO 045156N 1024953E	027° 207° 33 NM	FL 460 5 500 FT ALT MNM 6 000 FT				
△ KUALA TERENGGANU DVOR/DME (VKR) 052138N 1030454E	019° 199° 25 NM					
▲ IKUKO (FIR BRDY) 054512N 1031324E	017° 197° 74 NM	FL 460 FL 245 MNM FL 250				
▲ IGARI 065612N 1033506E						

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
R221							
▲ MERSING DVOR/DME(VMR) 022318N 1035218E	024°	FL 460		10	↓	↑	
	204°	5 500 FT ALT					
▲ PULAU TIOMAN DVOR/DME (VPT) 025439.4N 1040603.6E	34 NM	MNM 6 000 FT					
R223							
▲ BRUNEI DVOR/DME(BRU) 045230N 1145254E	181°	FL 460		20	↓	↑	Controlling Authority : Kinabalu ACC - 128.3 MHz
	001°	FL 135					
▲ BUTAX 042613N 1145232E	26 NM	MNM FL 140					
	181°						
▲ AGSON (FIR BDRY) 021500N 1145124E	001°						
	131 NM						
R325							
▲ DUBAX (FIR BDRY) 062548N 1000749E	133°	FL 460		20	↓	↑	10 min longitudinal separation between RNAV - equipped aircraft applying Mach Number Technique. Other aircraft - 15 min longitudinal separation. No Pre Departure Coordination (No PDC) arrangement : Flights departing from WMSA / WMKK via R325 / B579 will be cleared to FL 280. No Flight Planning for westbound t/c operating above FL 200. Controlling Authority: DUBAX - ANSOM - Kuala Lumpur ACC : (P) 132.8 MHz, (S) 133.55 MHz. ANSOM - A/VBA - Kuala Lumpur ACC: (P) 134.25 MHz, (S) 129.75 MHz. A/VBA - LATUK - Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz, LATUK - VJR : Kuala Lumpur ACC (P) 123.75 MHz (S) 132.75 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz, within Johor Bharu TMA - Johor Approach 124.7 MHz)
	313°	9 500 FT ALT					
▲ ALOR STAR DVOR/DME (VAS) 061108.4N 1002349.2E	22 NM	MNM 10 000 FT					
	157°	FL 460					
△ IPOH DVOR/DME (VIH) 043422.9N 1010537.0E	337°	8 500 FT ALT					
	105 NM	MNM 9 000 FT					
△ ANSOM 040424N 1013219E	138°	FL 460					
	318°	9 500 FT ALT					
△ LATUK 025516N 1023346E	40 NM	MNM 10 000 FT					
	138°	FL 460					
△ DAMAL 021955N 1030512E	318°	11 500 FT ALT					
	47 NM	MNM FL 130					
▲ JOHOR BAHRU DVOR/DME (VJR) 014347.5N 1033717.9E	138°	FL 460					
	318°	5 500 FT ALT					
▲ PAPS (FIR BDRY) 011157N 1100830E	48.3 NM	MNM 6 000 FT					
R455							
▲ KUCHING DVOR/DME (VKG) 012821.9N 1101842.9E	211°	FL 460		20	↑	↓	
	031°	6 500 FT ALT					
▲ PAPS (FIR BDRY) 011157N 1100830E	19 NM	MNM 7 000 FT					

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits Minimum Flight Altitude Airspace Classification (Refer to ENR 1.4-1)	Latera l Limits (NM)	Cruising levels		Remarks Controlling unit
				Odd	Even	
1	2	3	4	5		6
R461						
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	295° 115° 40 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20		↓	10 min longitudinal separation Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Kuala Lumpur TMA - Lumpur Approach South - 119.45 MHz)
△ INTOT 030025N 1010807E	295° 115° 56 NM				↑	
▲ PUGER (FIR BDRY) 032359N 1001731E						
R467						
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	309° 129° 40 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20		↓	Flight planning : From Singapore/Johor Bahru - A457 or A464, thence R467 and B466 Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Kuala Lumpur TMA - Lumpur Approach South - 119.45 Mhz)
△ AGOSA 030841N 1011309E	309° 129° 20 NM				↑	
△ GOBAS 032123N 1005722E	308° 128° 109 NM	FL 460 8 500 FT ALT MNM 9 000 FT				
▲ GUNIP 042953N 0993150E						
R579						
△ MALACCA DVOR/DME (VMK) 021529.0N 1021445.0E	202° 022° 32 NM	FL 460 6 500 FT ALT MNM 7 000 FT	*20		↓	The longitudinal separation between aircraft on this route is 10 mins. * 10 NM either side of track. Controlling Authority: Kuala Lumpur ACC: (P) 123.75 MHz (S) 132.75 MHz (within Malacca CTR - Malacca Tower - 118.0 MHz)
△ DOSIK (FIR BDRY) 014552N 1020237E					↑	
W401						
▲ HOSBA (34 DME SJ / R-079) (24 DME VTK/ R-103) 011947.9N 1042417.5E	295° 115° 28 NM	FL 245 2 000 FT ALT MNM 7 000 FT	5		↓	Note : Controlling Authority : Singapore ACC Airspace below AWY controlled by Johor Approach.
▲ KONG KONG NDB (KK) 013118N 1035924E	266° 086° 10 NM	FL 245 2 000 FT ALT MNM 3 000 FT				
▲ JAYBEE NDB (JB) 013000N 1034242E	266° 086° 7 NM	FL 245 3 000 FT ALT MNM 6 000 FT	3			
△ LELIB 012729N 1032450E	262° 082° 18 NM					
△ PIMOK 012648N 1032008E	262° 082° 5 NM					

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits		Latera l 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
W404							
▲ JOHOR BAHRU NDB (JR) 014030N 1033936E							
	115° 295° 22 NM	FL 200 2 500 FT ALT MNM 3 000 FT		3	↓	↑	
▲ KONG KONG NDB (KK) 013118N 1035924E							
W420							
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E							Controlling Authority : Kinabalu ACC - 126.1 MHz Caution : WBD 516 KOTA BELUD ACTIVITY
	038° 218° 50 NM	FL 460 8 500 FT ALT MNM 9 000 FT		20	↓		
△ KABDU 063322N 1163312E	038° 218° 27 NM						
▲ KUDAT 065430N 1165000E	129° 309° 95 NM	FL 460 5 500 FT ALT MNM 6 000 FT			↑		
▲ SANDAKAN DVOR/DME (VSN) 055413.6N 1180429.6E							
W421							
▲ SANDAKAN DVOR/DME (VSN) 055413.6N 1180429.6E							Controlling Authority : Kinabalu ACC
	163° 343° 55 NM	FL 460 6 500 FT ALT MNM 7 000 FT		20	↓	↑	
▲ LAHAD DATU LOCATOR (LHD) 050129.1N 1182010.7E							
W422							
▲ BINTULU DVOR/DME (VBU) 030914.0N 1130048.0E							Controlling Authority : Bintulu TWR Kinabalu ACC - 128.3 MHz Miri APP - 122.7 MHz or 129.9 MHz
	040° 220° 92 NM	FL 460 6 500 FT ALT MNM 7 000 FT		20	↑	↓	
▲ MIRI DVOR/DME (VMI) 042016.0N 1135939.0E							
W424							
▲ LAHAD DATU LOCATOR (LHD) 050129.1N 1182010.8E							Controlling Authority : Kinabalu ACC: (p) 126.1MHz Within Tawau CTR: Tawau APP: 123.55 (P) 122.50 (S)
	196° 016° 44 NM	FL 460 4 500 FT ALT MNM 5 000FT		20	↑	↓	
▲ TAWAU DVOR/DME (VTW) 041928.3N 1180823.7E							

Route Designator Significant Points Coordinates	Track (MAG) DIST (NM)	Upper limits Lower limits	Latera l 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
W425						
▲ TAWAU DVOR/DME (VTW) 041928.3N 1180823.7E	307° 127° 45 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓	↑	Controlling Authority : Kinabalu ACC: (PRI) 126.1 MHz Within Tawau CTR: Tawau APP - 123.55 (PRI), 122.50 (SRY)
▲ AKDEM 044620N 1173225E RDL 307/45D VTW	307° 127° 113 NM	FL 460 10 500 FT ALT MNM 11 000 FT				
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E						
W441						
▲ DOGOG 052518N 1140742E	097° 277° 55 NM	FL 460 FL 135 MNM FL 140	20	↓	↑	Controlling Authority : Kinabalu ACC - 128.3 MHz Tawau Approach - 123.55 Mhz
▲ UKIBA 051849N 1150209E	097° 277° 13 NM					
▲ LABUAN DVOR/DME (VLB) 051724.0N 1151506.2E	109° 289° 76NM					
▲ LATIL 045340N 1162649E	109° 289° 42 NM	FL 460 8 500 FT ALT MNM 9 000 FT				
▲ IRMEN 044008N 1170655E	109° 289° 64 NM	FL 460 6 500 FT ALT MNM 7 000 FT				
▲ TAWAU DVOR/DME (VTW) 041928.0N 1180824.0E						
W442						
▲ OLKIT 045012N 1115118E	103° 283° 111 NM	FL 460 FL 135 MNM FL 140	20	↓	↑	Controlling Authority : Kinabalu ACC - 128.3 MHz
▲ SAKMA 042428N 1133955E	103° 283° 20 NM	FL 460 8 500 FT ALT MNM 9 000 FT				
▲ MIRI DVOR/DME (VMI) 042016.0N 1135939.0E						
W443						
▲ KAMIN (FIR BDRY) 023442N 1085536E	129° 309° 106 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓	↑	Controlling Authority : Kuching ACC - 134.5 MHz
▲ KUCHING DVOR/DME (VKG) 012821.9N 1101842.9E						

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
W446						
▲ MIRI DVOR/DME (VMI) 042016.0N 1135939.0E	204°	FL 460 6 500 FT ALT MNM 7 000 FT	20	↑	↓	Controlling Authority : Miri APP Kuching ACC - 128.3 MHz
	024° 59 NM					
▲ KEVOX 032624N 1133550E						
W447						
▲ BINTULU DVOR/DME (VBU) 030914.0N 1130048.0E	262°	FL 460 6 500 FT ALT MNM 7 000 FT	20	↑	↓	Controlling Authority : Bintulu TWR Kuching Control - 134.5 MHz
	082° 25 NM					
▲ ADGAB 030544N 1123603E	262° 082°					
▲ KAMIN (FIR BDRY) 023442N 1085536E	222 NM					
W448						
▲ BINTULU DVOR/DME (VBU) 030914.0N 1130048.0E	064°	FL 245 4 500 FT ALT MNM 5 000 FT	20	↓	↑	Controlling Authority : Kinabalu ACC - 128.3 MHz except Within Miri TMA Miri APP : 129.9 MHz (P) 122.7 MHz (S) Within Mulu CTR Mulu TWR : 129.200 MHz (P) 121.7 MHz (S) Caution : Acft intending to hold over VZU DVOR/DME or DVOR must cross 8 DME VZU at 10000 FT or enter minimum holding pattern at 10000 FT due to high terrain east of VZU DVOR.
	244° 39 NM					
▲ KEVOX 032624N 1133550E	064° 244°					
▲ 8 DME VZU 035826N 1144032E	72 NM					
▲ MULU DVOR/DME (VZU) 040158.0N 1144743.0E	064° 244° 8 NM	FL 245 9 500 FT ALT MNM 10 000 FT				
W449						
▲ MIRI DVOR/DME (VMI) 042016.0N 1135939.0E	110°	FL 245 4 500 FT ALT MNM 5 000 FT	20	↓	↑	Controlling Authority : Kinabalu ACC - 128.3 MHz except Within Miri TMA Miri APP : 129.9 MHz (P) 122.7 MHz (S) Brunei APP : 127.1 MHz Mulu TWR : 129.200 MHz (P) 121.7 MHz (S) Caution : Acft intending to hold over VZU DVOR/DME or DVOR must cross 8 DME VZU at 10000 FT or enter minimum holding pattern at 10000 FT due to high terrain east of VZU DVOR.
	290° 43 NM					
▲ 8 DME VZU 040449N 1144014E	110° 290°	FL 245 9 500 FT ALT				
▲ MULU DVOR/DME (VZU) 040158.0N 1144743.0E	8 NM	MNM 10 000 FT				

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
W450							
▲ LIMBANG DVOR/DME (VLG) 044750.0N 1150008.0E	245° 065° 66 NM	FL 245 4 500 FT ALT MNM 5 000 FT		20	↑	↓	Controlling Authority : Kinabalu ACC - 128.3 MHz except Within Brunei TMA Brunei APP : 127.1 MHz Within Miri TMA Miri APP : 129.9 MHz (P) 122.7 MHz (S) Limbang TWR : 124.30 MHz
▲ MIRI DVOR/DME (VMI) 042016.0N 1135939.0E							
W451							
▲ LIMBANG DVOR/DME (VLG) 044750.0N 1150008.0E	043° 223° 91 NM	FL 245 4 500 FT ALT MNM 5 000 FT		20	↓	↑	Controlling Authority : Kinabalu ACC - 128.3 MHz except Within Brunei TMA Brunei APP : 127.1 MHz Limbang TWR : 124.30 MHz
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E							
W452							
▲ MULU DVOR/DME (VZU) 040158.0N 1144743.0E	012° 192° 16 NM	FL 245 9 500 FT ALT MNM 10 000 FT		20	↓		Controlling Authority : Kinabalu ACC - 128.3 MHz except Within Miri TMA Miri APP : 129.9 MHz (P) 122.7 MHz (S) Within Brunei TMA Brunei APP : 127.1 MHz Mulu TWR : 129.200 MHz (P) 121.7 MHz (S) Caution : Acft intending to hold over VZU DVOR/DME or DVOR must cross 16 DME VZU at 10000 FT or enter minimum holding pattern at 10000 FT due to high terrain east of VZU DVOR.
▲ 16 DME VZU 041740N 1145104E	012° 192° 9 NM	FL 245 7 000 FT ALT MNM 7 000 FT			↑		
▲ BUTAX 042613N 1145232E							
W453							
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	090° 270° 19 NM	FL 460 10 000 FT ALT MNM 11 000 FT		20	↓		Controlling Authority : Kinabalu ACC - 128.3 MHz Except that part of ATS route within Brunei TMA - Brunei Approach 127.1 MHz
▲ BRU TMA BDRY 045220N 1151200E	090° 270° 75 NM				↑		
▲ LATIL 045340N 1162649E							
W456							
▲ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E	188° 008° 37 NM	FL 145 6 500 FT ALT MNM 7 000 FT		20	↓	↑	Controlling Authority : Kuching ACC - 134.5 MHz 125.35 MHz (S) Except Within SibU CTR Sibu TWR : 122.6 MHz (P) 123.2 MHz (S)
▲ GONAD 025138N 1120521E							

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
W457							
▲ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E							Controlling Authority : Kuching ACC - 134.5 MHz 125.35 MHz (S) Except Within SibU CTR Sibu TWR : 122.6 MHz (P) 123.2 MHz (S)
	045° 225° 58 NM	FL 245 6 500 FT ALT MNM 7 000 FT		20		↓	
▲ KAMUM 013335N 1111915E	085° 265° 61 NM					↑	
▲ KUCHING DVOR/DME (VKG) 012824N 1101820.7E							
W458							
▲ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E							Controlling Authority : Kuching ACC - 134.5 MHz 125.35 MHz (S) Except Within SibU CTR Sibu TWR : 122.6 MHz (P) 123.2 MHz (S) Within Bintulu CTR Bintulu TWR : 122.3 MHz (P) 119.2 MHz (S)
	248° 068° 43 NM	FL 245 6 500 FT ALT MNM 7 000 FT		20		↓	
▲ ALEKA 023059.2N 1124003E	208° 028° 18 NM					↑	
▲ BENLI 024711N 1124850E	208° 028° 25 NM						
▲ BINTULU DVOR/DME (VBU) 030914N 1130048E							
W459							
▲ SIBU DVOR/DME (VSI) 021448.5N 1120012.2E							Controlling Authority : Kuching ACC - 134.5 MHz 125.35 MHz (S) Except Within SibU CTR Sibu TWR : 122.6 MHz (P) 123.2 MHz (S)
	085° 265° 47 NM	FL 460 6 500 FT ALT MNM 7 000 FT		20		↓	
▲ AGPOP 021041N 1111325E	085° 265° 98 NM					↑	
▲ OKTOG 020349N 1093501E	085° 265° 64 NM						
▲ AGOBA 015842N 1083000E							
W460							
▲ KOTA KINABALU DVOR/DME (VJN) 055357.3N 1160202.3E	111° 291° 74 NM	FL 460 10500 FT ALT MNM 110 ALT				↓	Controlling Authority: Kota Kinabalu ACC – 126.1 MHz
△ VISED 052746N 1171115E				20			
▲ LAHAD DATU LOCATOR (LHD) 050129.1N 1182010.8E	111° 291° 74 NM	FL 460 6500 FT ALT MNM 7000 FT ALT				↑	

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
W461						
▲ BRUNEI DVOR/DME (BRU) 045230N 1145254E	072° 252° 52 NM	FL 460 10500 FT ALT MNM 110 ALT	20	↓		Controlling Authority: Kota Kinabalu ACC – 126.1 MHZ
△ REKOS 050832N 1154208E	072° 252° 59 NM					
△ OSTAN 052645N 1163824E	072° 252° 30 NM					
▲ SANDAKAN DVOR/DME (VSN) 055413.6N 1180429.6E	072° 252° 60 NM	FL 460 7500 FT ALT MNM 8000 FT ALT		↑		
W463						
▲ SANDAKAN DVOR/DME (VSN) 055413.6N 1180429.6E	293° 113° 50 NM	FL 460 7500 FT ALT MNM 8000 FT ALT	20	↓		Controlling Authority: Kota Kinabalu ACC – 126.1 MHZ Caution: WBD 516 KOTA BELUD ACTIVITY *This ATS Route joins W420 at KABDU or vice versa.
△ 50 DME VSN 061403.1N 1171822.2E	293° 113°	FL 460 8500 FT ALT MNM 9000 FT ALT				
△ KABDU 063322N 1163312E	49 NM					
W525						
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E	335° 155° 45 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓		Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)
△ GOMAT 055712N 0995620E	335° 155°					
▲ LANGKAWI DVOR/DME (VPL) 062119.5N 0994450.6E	27 NM					
W530						
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E	130° 66 NM	FL 460 6 500 FT ALT MNM 7 000 FT	20	↓		Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)
△ IPOH DVOR/DME (VIH) 043422.9N 1010537.0E						

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
W531							
▲ LANGKAWI DVOR/DME (VPL) 062119.5N 0994450.6E	143°	FL 460 7 500 FT ALT MNM 8 000 FT		20	↓	Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)	
△ ANDOK 060120N 1000000E	25 NM						
△ VILAT 055328N 1000557E	10 NM						
△ IPOH DVOR/DME (VIH) 043422.9N 1010537.0E	99 NM						
W532							
△ TEPUS 041013N 1004533E	040°	FL 460 6 500 FT ALT MNM 7 000 FT		20	↓	Controlling Authority: Kuala Lumpur ACC: (P) 132.8 MHz, (S) 133.55 MHz (within Ipoh CTR - Ipoh Tower 122.1 MHz)	
△ IPOH DVOR/DME (VIH) 043422.9N 1010537.0E	220° 31 NM						
W533							
▲ KUALA LUMPUR DVOR/DME (VKL) 024328.0N 1014417.0E	055°	FL 460 6 500 FT ALT MNM 7 000 FT		20	↓	Controlling Authority: Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz (within Kuala Lumpur TMA - Lumpur Approach South - 119.45 MHz) (within Kuantan TMA - Kuantan Approach - 119.7 MHz)	
△ KIMAT 030944N 1022102E	235° 45 NM						
△ ADNUT 032133N 1023738E	055° 20 NM						
▲ KUANTAN VOR/DME (VKN) 034623.1N 1031239.5E	235° 43 NM						
▲ KERTEH DVOR/DME (VKE) 043254.2N 1032523.6E	015° 195° 48 NM	FL 460 4 500 FT ALT MNM 5 000 FT				↑	
W534							
△ TOPOR 014412N 1025330E	091°	FL 460 4 500 FT ALT MNM 5 000 FT		8	↓	Controlling Authority: Kuala Lumpur ACC: (P) 123.75 MHz (S) 132.75 MHz (within Johor Bahru TMA - Johor Approach 124.7 MHz)	
▲ JOHOR BAHRU DVOR/DME (VJR) 014347.5N 1033717.9E	271° 44 NM						
W535							
△ DUMOK 021757N 1020015E	280° 100°	FL 460 5 500 FT ALT MNM 6 000 FT		20	↓	Controlling Authority: Kuala Lumpur ACC: (P) 123.75 MHz (S) 132.75 Mhz (within Malacca CTR - Malacca Tower 118.0 MHz)	
△ MALACCA DVOR/DME (VMK) 021529.0N 1021445.0E	15 NM						
△ GUPTA 020948N 1023830E	283° 103° 24 NM						

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
W536							
△ SAPAT 023210N 1020230E	323°						Controlling Authority: Kuala Lumpur ACC: (P) 123.75 MHz (S) 132.75 MHz (within Malacca CTR - Malacca Tower 118.0 MHz)
△ MALACCA DVOR/DME (VMK) 021529.0N 1021445.0E	21 NM	FL 460 5 500 FT ALT		20	↑		
	146°				↓		
△ OGAKO 015850N 1022608E	20 NM	MNM 6 000 FT					
W540							
▲ KOTA BHARU DVOR/DME (VKB) 060948.3N 1021851.1E	158° 338°	FL 235 7 500 FT ALT			↓		Controlling Authority: Kuala Lumpur ACC: (P) 132.6 MHz, (S) 133.65 MHz (within Kuantan TMA - Kuantan Approach - 119.7 MHz, within Kota Bharu CTR - K. Bharu Tower - 122.5 MHz)
△ 35 DME VKB 053719N 1023149E	35 NM	MNM 8 000 FT		20	↑		
▲ PEKAN DVOR/DME (VPK) 032259N 1032524E	158° 338°						
	145 NM						
W541							
▲ LANGKAWI DVOR/DME (VPL) 062119.4N 0994450.6E	285°	10.000 FT. ALT 4 500 FT ALT					Controlling Authority : Within Alor Star CTR - Alor Star Tower - 122.3 MHz
▲ SAGEL 061724N 1000000E	16 NM			5			
▲ ALOR STAR DVOR/DME (VAS) 061108.4N 1002349.2E	285° 25 NM	MNM 5 000 FT			↑		
W542							
▲ LANGKAWI DVOR/DME (VPL) 062119.4N 0994450.6E	130° 310°	10.000 FT ALT 4 500 FT ALT			↓		Controlling Authority : Within Alor Star CTR - Alor Star Tower - 122.3 MHz
▲ MULOT 060942N 0995836E	18 NM			5			
▲ ALOR STAR DVOR/DME (VAS) 061108.4N 1002349.2E	086° 266° 25 NM	MNM 5 000 FT					

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
W543 (Conditional Route)						
▲ MALACCA DVOR/DME (VMK) 021529.0N 1021445.0E	297° 117°	FL 240 FL 135 MNM FL 140	20			Conditional ATS Route Activation by NOTAM and/or AIP Supplement during Airspace Closure which affects a portion of Airways A457, B466 and R325 for Major Air Exercise within Kuala Lumpur and Singapore Flight Information Region. Controlling Authority: Lumpur ACC (P) 123.75 Mhz (S) 132.75 MHz
▲ ADPAX 014401N 1031538E	68.6 NM					
▲ JAYBEE NDB (JB) 013000N 1034242E	297° 117°					
	30.6 NM					
W650						
▲ PENANG DVOR/DME (VPG) 051646.7N 1001537.4E	042° 222° 44 NM	FL 145 8 500 FT ALT MNM 9 000 FT	20	↓	↑	Flights from Penang are to reach 11 000 FT ALT or above by 40 DME VPG or PAPDA. Controlling Authority: VPG-POPID (FIR BDRY) - (within Butterworth TMA - Butterworth Approach (P) 125.8 MHz, (S) 128.5 MHz)
▲ PAPDA 054929N 1004513E	342° 162°	FL 145 10 500 FT ALT MNM 11 000 FT		↓		
▲ POPID (FIR BDRY) 062920N 1003212E	42 NM			↑		
▲ HATYAI DVOR/DME (HTY) 065540N 1002337E	342° 162° 28 NM			↑		