

**ENR 3. ATS ROUTES**  
**ENR 3.1 LOWER ATS ROUTES**

3.1.1 INTERNATIONAL ATS ROUTES

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude		Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
		Airspace classification			Odd	Even	
1	2	3		4	5		6
<b>A582</b>							
▲ ANYANG VORTAC(SEL) 372449N 1265542E	174° 354°		4 500 ft AMSL (3 400 ft)	10	↓		<b>Incheon ACC</b> FREQ: 132.80 MHz 118.925 MHz 132.20 MHz <sup>1)</sup>
▲ POLEG 371249N 1265935E	12.4		Class A, D and G				1) <i>Common frequency</i>
▲ SONGTAN VORTAC(SOT) 370540N 1270154E	174° 354°						<b>Airspace Classification</b> Class A : ABOVE FL 200 – FL 600 Class D : MEA – FL 200 Class G : ABOVE FL 600 - UNL
△ OSPOT 365018N 1272055E	7.4						
	143° 323°		8 000 ft AMSL (3 300 ft)				
△ VASLI 364252N 1273003E	21.6		Class A, D and G				<b>Daegu ACC</b> FREQ: 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>2)</sup>
△ MAKDU 362712N 1274909E	143° 324°						2) <i>Common frequency</i>
△ BITUX 361645N 1280148E	10.4	(69/39)	8 000 ft AMSL (4 300 ft)				<b>Airspace Classification</b> Class A : ABOVE FL 200 – FL 600 Class D : MEA – FL 200 Class G : ABOVE FL 600 - UNL
▲ DALSEONG VORTAC(TGU) 354835N 1283527E	144° 324°		8 000 ft AMSL (4 400 ft)				
▲ APELA 344323N 1291400E 344312N 1291408E <sup>3)</sup>	21.9		Class A, D and G				
	144° 324°		8 000 ft AMSL (4 400 ft)				
	144° 324°		10 000 ft AMSL (5 200 ft)				
	39.2		Class A, D and G				
△ KALOD 353012N 1284626E	162° 342°		6 000 ft AMSL (5 400 ft)				
▲ BUSAN VORTAC(PSN) 350721N 1285958E	20.4		Class A, D and G				
	162° 342°						
	25.4		4 000 ft AMSL (3 000 ft)				
	162° 342°		Class A, D and G				
	26.6					↑	
INCHEON FIR							
FUKUOKA FIR							
	3) <i>BESSEL datum</i>						

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification		Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
					Odd	Even	
1	2	3		4	5		6
<b>A586</b>							
▲ <b>TENAS</b> 373820N 1313427E	$\frac{227^\circ}{047^\circ}$		FL 310 (4 600 ft)	10		↓	<b>Daegu ACC</b> FREQ : 122.25 MHz 134.175 MHz 120.575 MHz 125.925 MHz 122.75 MHz <sup>1)</sup> <i>1) Common frequency</i>  <b>Operational Hour(UTC)</b> -Weekdays: 1100-2200 -SAT : 2200 on the preceding until 2400 on Saturday. -SUN : 0000-2200 -Holiday : 1100 on the preceding until 2200 on holiday.  Airspace Classification refer to ENR 3.1-1
△ <b>AGSUS</b> 364521N 1304044E	68.1		Class A and G				
△ <b>DABIK</b> 361743N 1301143E	$\frac{228^\circ}{048^\circ}$ 36.2		FL 310 (1 500 ft)				
△ <b>BULGA</b> 355609N 1294924E	$\frac{228^\circ}{048^\circ}$ 28.1		Class A and G				
△ <b>BEDOM</b> 352513N 1291754E	$\frac{228^\circ}{047^\circ}$ 40.2		FL 310 (2 800 ft)				
▲ <b>BUSAN VORTAC(PSN)</b> 350721N 1285958E	$\frac{227^\circ}{047^\circ}$ 23.1		FL 310 (4 000 ft)				
△ <b>OMOTU</b> 350033N 1285022E	$\frac{237^\circ}{057^\circ}$ 10.4	(79/78)	8 000 ft AMSL (3 500 ft)				
▲ <b>TOPAX</b> 344555N 1282952E	$\frac{237^\circ}{057^\circ}$ 22.3		Class A, D and G				
△ <b>GOSBO</b> 341517N 1274734E	$\frac{237^\circ}{056^\circ}$ 46.4		8 000 ft AMSL (2 800 ft)				
▲ <b>MAKET</b> 335452N 1271953E	$\frac{236^\circ}{055^\circ}$ 30.7		Class A, D and G				
△ <b>ATINA</b> 334320N 1270423E	$\frac{235^\circ}{055^\circ}$ 17.3		9 000 ft AMSL (1 500 ft)				
▲ <b>JEJU VORTAC(CJU)</b> 332305N 1263727E	$\frac{235^\circ}{055^\circ}$ 30.3		Class A, D and G				
△ <b>TOSAN</b> 330012N 1264619E	$\frac{169^\circ}{349^\circ}$ 24.0		9 000 ft AMSL (8 700 ft)				
▲ <b>RUGMA</b> 323012N 1265753E 323000N 1265800E <sup>4)</sup>	$\frac{169^\circ}{349^\circ}$ 31.5		Class A, D and G				
INCHEON FIR FUKUOKA FIR	4) <i>BESSEL datum</i>						
							※ The cruising levels from CJU to RUGMA are even levels due to operational reasons  ※ The cruising level from RUGMA to CJU are odd levels due to operational reasons

Change : Information of Incheon ACC FREQ.

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
				Odd	Even	
1	2	3	4	5		6
FUKUOKA FIR						
INCHEON FIR						
<b>A593</b>						<b>Incheon ACC</b>
▲ ONIKU 321142N 1263917E	$\frac{263^\circ}{082^\circ}$	FL 240 (1 500 ft)  Class A and G	50		↓	FREQ : 124.525 MHz 128.375 MHz 132.20 MHz <sup>1)</sup>
△ NIRAT 320354N 1260329E	31.4					1) <i>Common frequency</i>
△ PONIK 320021N 1254659E	$\frac{263^\circ}{082^\circ}$					※ Following altitudes are used by Fukuoka ACC: -Westbound : FL 240, FL 280 or FL 300, FL 400 -Eastbound : FL 250, FL 290 or FL 310, FL 390
▲ SADLI 315000N 1245954E	14.5					Airspace Classification refer to ENR 3.1-1
▲ LAMEN 313648N 1235954E 313636N 1240000E <sup>2)</sup>	$\frac{262^\circ}{082^\circ}$					↑
	41.4					※Please refer to the ENR 1.10-1 page for submission of FPL using A593 airway.
	$\frac{262^\circ}{082^\circ}$					
	52.8					
	2) <i>BESSEL datum</i>					
INCHEON FIR						
SHANHAI FIR						
<b>A595</b>						<b>Incheon ACC</b>
▲ JEJU VORTAC(CJU) 332305N 1263727E	$\frac{089^\circ}{269^\circ}$	9 000 ft AMSL (8 700 ft)	8		↓	FREQ : 123.725 MHz 124.50 MHz 132.20 MHz <sup>3)</sup>
△ TAMNA 332815N 1271953E	35.9	Class A, D and G				3) <i>Common frequency</i> Airspace Classification refer to ENR 3.1-1
▲ SAMDO 333503N 1281857E 333451N 1281905E <sup>5)</sup>	$\frac{089^\circ}{270^\circ}$	9 000 ft AMSL (1 500 ft)				
	49.8	Class A, D and G			↑	4) <i>Common frequency</i> Airspace Classification refer to ENR 3.1-1
	5) <i>BESSEL datum</i>					
INCHEON FIR						
FUKUOKA FIR						

Change : Information of Incheon ACC FREQ.

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
				Odd	Even	
1	2	3	4	5		6
PYONGYANG FIR						
INCHEON FIR						
<b>B332</b>						<b>Daegu ACC</b>  FREQ : 122.25 MHz 125.925 MHz 122.75 MHz <sup>1)</sup>  1) <i>Common frequency</i>  Airspace Classification refer to ENR 3.1-1
▲ KANSU 383800N 1322830E	180° 360°	FL 200 (1 500 ft)  Class A and G	50	↓		
△ PALDU 375813N 1323625E	40.2					
▲ SABET 373829N 1324019E	180° 360°					
▲ IGRAS 371846N 1324411E	19.9					
	180° 360°				↑	
INCHEON FIR						
FUKUOKA FIR						
<b>B467</b>						<b>Daegu ACC</b>  FREQ : 122.25 MHz 134.175 MHz 125.925 MHz 122.75 MHz <sup>2)</sup>  2) <i>Common frequency</i>  Airspace Classification refer to ENR 3.1-1
▲ GANGWON VORTAC(KAE) 374203N 1284514E	099° 280°	8 000 ft AMSL (7 100 ft)  Class A, D and G	10	↓		
△ NOMEX 374112N 1294441E	47.2	8 000 ft AMSL (1 500 ft)				
△ BUSKO 374033N 1301610E	100° 280°	8 000 ft AMSL (4 600 ft)				
▲ TENAS 373820N 1313427E	25.0	Class A, D and G	50			
	100° 281°	8 000 ft AMSL (4 600 ft)				
△ MALSO 375440N 1314904E	62.2	Class A, D and G	FL 200 (1 500 ft)  Class A and G			
▲ KANSU 383800N 1322830E	044° 224°					
	20.0					
	044° 224°				↑	
	53.3					
INCHEON FIR						
PYONGYANG FIR						

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification		Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
		Odd	Even				
1	2	3		4	5		6
<b>B576*</b>							
▲ ANYANG VORTAC(SEL) 372449N 1265542E	174° 354°	4 500 ft AMSL (3 400 ft) Class A, D and G		10		↓	<b>Incheon ACC</b> FREQ: 126.175 MHz 134.375 MHz 120.725 MHz 128.30 MHz 124.525 MHz 128.375 MHz 132.20 MHz <sup>1)</sup>
▲ POLEG 371249N 1265935E	12.4 174° 354°						
▲ SONGTAN VORTAC(SOT) 370540N 1270154E	7.4 193° 013°		2 800				
△ OLMEN 364413N 1265928E	21.5 193° 013°		3 600				1) Common frequency
△ ENTEL 362311N 1265705E	21.1 193° 013°	13 000 ft AMSL 7 000 ft AMSL	3 100				Airspace Classification refer to ENR 3.1-1
△ RINBO 355352N 1265349E	29.4 193° 013°	(59/59) UNL** FL 140	3 400				* Note B576 is only used for Non-RNAV aircraft. Any aircraft approved for RNAV operations should use Y711 or Y722
△ LINTA 353116N 1265119E	22.7 193° 013°		4 700				
△ GWANGJU VOR(KWA) 350734N 1264844E	23.8 193° 013°						
△ IPDAS 341515N 1264301E	52.5 192° 012°	(52/52) 13 000 ft AMSL 9 000 ft AMSL	UNL** FL 140				**Note Any aircraft planning to operate above FL 140 between SOT and CJU must coordinate with Incheon ACC before flight planning
▲ JEJU VORTAC(CJU) 332305N 1263727E	52.3 207° 027°	9 000 ft AMSL (8 700 ft) Class A, D and G					
△ SOSDO 330012N 1262735E	24.3 207° 027°						
△ SAMLO 323223N 1261536E	29.5 207° 027°						
△ NIRAT 320354N 1260329E	30.2 207° 027°	8 000 ft AMSL (1 500 ft) Class A, D and G					
△ TESIM 313526N 1255128E	30.2 207° 027°						
▲ ATOTI 300013N 1251154E 300000N 1251200E <sup>2)</sup>	100.9					↑	
INCHEON FIR FUKUOKA FIR	2) BESSEL datum						

Change : Information of FREQ.



Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
				Odd	Even	
1	2	3	4	5		6
<b>G339</b> ▲ BUSAN VORTAC(PSN) 350721N 1285958E  ▲ INVOK 344719N 1291923E 344708N 1291931E <sup>2)</sup>  INCHEON FIR FUKUOKA FIR	149° 329°	10 000 ft AMSL (3 400 ft)  Class A, D and G	8	↓		<b>Daegu ACC</b>  FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>1)</sup>  1) <i>Common frequency</i>  Airspace Classification refer to ENR 3.1-1
	25.6				↑	
	2) <i>BESSEL datum</i>					

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑/↓ VOR RDL DIST (COP)		Upper limits Lower limits or Minimum altitude		Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
			Airspace classification			Odd	Even	
1	2		3		4	5		6
<b>G585</b>								
▲ ANYANG VORTAC(SEL) 372449N 1265542E					8	↓		<b>Incheon ACC</b>  FREQ: 132.80 MHz 128.7 MHz 118.925 MHz 120.525 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Only flying westbound from KPO to SEL on G585 is authorized except ACFT departing from RKTY or RKTI.  Aircraft flying eastbound from SEL to KPO at or above 11 000 ft on G585 shall get PPR 24 hours before from Daegu ACC.  No PPR is needed at or below 10 000 ft. Airspace Classification refer to ENR 3.1-1
▲ KALMA 371845N 1270645E	133° 313° 10.7		8 000 ft AMSL (3 400 ft)  Class A, D and G					
△ KAKSO 370745N 1272637E	133° 313° 19.3	(50/32)	8 000 ft AMSL (3 600 ft)  Class A, D and G					
△ GUKDO 370111N 1273823E	133° 313° 11.5		8 000 ft AMSL (4 000 ft)  Class A, D and G					
△ BASEM 365037N 1275710E	133° 313° 18.4		8 000 ft AMSL (5 000 ft)  Class A, D and G					
▲ BIGOB 364325N 1280952E	133° 313° 12.5		8 000 ft AMSL (4 900 ft)  Class A, D and G					
△ YECHEON VOR(CUN) 363755N 1281931E	133° 313° 9.5		8 000 ft AMSL (3 900 ft)  Class A, D and G					
△ ELAPI 362014N 1285051E	133° 314° 30.8	(34/34)	8 000 ft AMSL (5 000 ft)  Class A, D and G					
▲ POHANG VORTAC(KPO) 355838N 1292828E	133° 314° 37.3		8 000 ft AMSL (5 000 ft)  Class A, D and G					
△ BULGA 355609N 1294924E	106° 286° 17.2		8 000 ft AMSL (3 000 ft)  Class A, D and G					
▲ SAPRA 354926N 1304325E 354915N 1304334E <sup>3)</sup>	106° 287° 44.4		8 000 ft AMSL (1 500 ft)  Class A, D and G				↑	
INCHEON FIR FUKUOKA FIR	3) BESSEL datum							

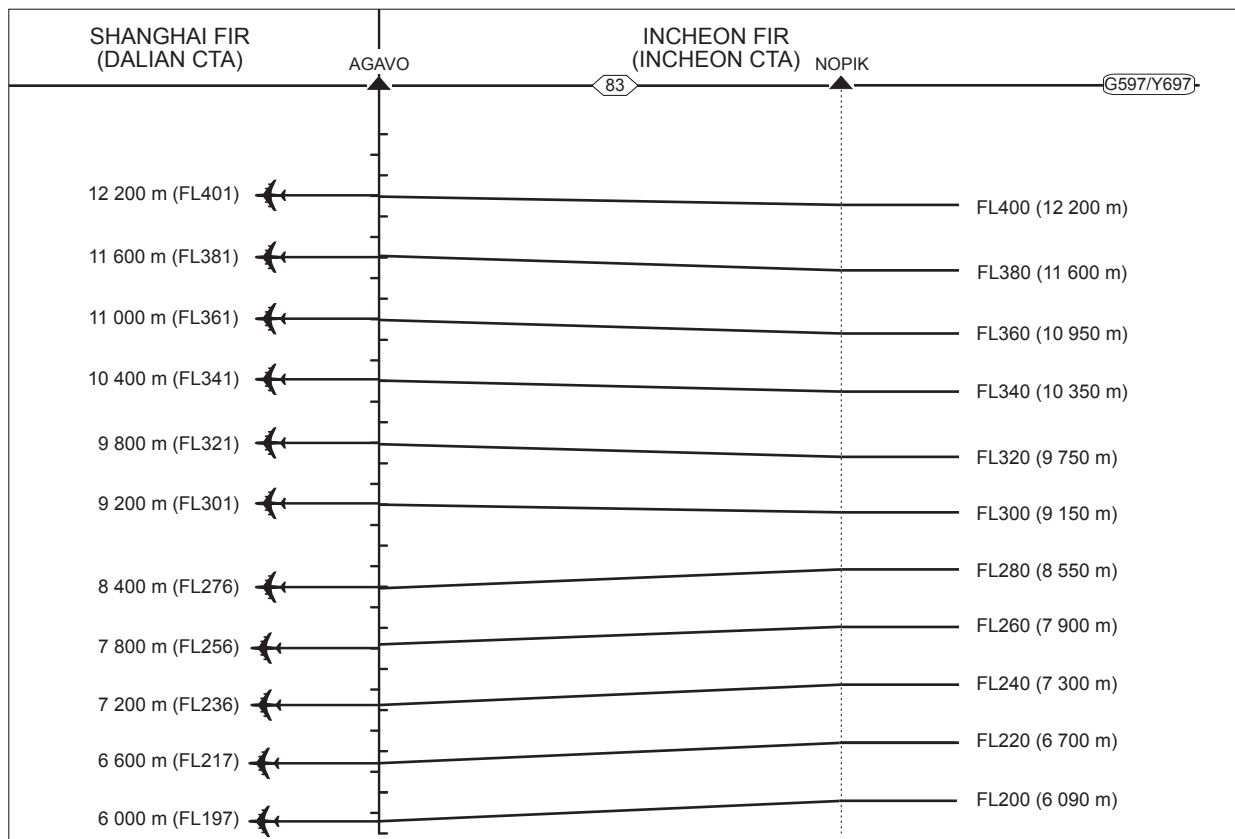
Change : Information of controlling unit.

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude		Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
		Airspace classification			Odd	Even	
1	2	3		4	5		6
SHANGHAI FIR							
INCHEON FIR							
<b>G597</b>							
▲ AGAVO 371010N 1235953E 371000N 1240000E <sup>5)</sup>	096° 277°			10			<b>Incheon ACC</b> FREQ : 128.70 MHz 132.80 MHz 132.20 MHz <sup>1)</sup> 1) Common frequency Westbound(SEL-AGAVO) FL 400, FL 380, FL 360, FL 340, FL 320, FL 300, FL 280, FL 260, FL 240, FL 220, FL 200. Note G597 is only for Non-RNAV aircraft. Any aircraft approved for RNAV operations should use Y697. Only flying westbound from SEL to AGAVO on G597 is authorized. (unless otherwise assigned by ATC, flying eastbound in this airway shall not be used) Aircraft flying eastbound from AGAVO to SEL on G597 shall get PPR 24-hours before from Incheon ACC. REF. ENR 3.1-9 for the detailed Altitude conversion procedures.
▲ GONAV 371048N 1242453E	20.0 066° 246°		FL 150 (1 500 ft)				
△ DANTI 371806N 1243929E	13.8 066° 247°		Class A, D and G				
△ ANSIM 372323N 1245009E	10.0 097° 277°						
△ BINIL 372349N 1251359E	19.0 097° 277°						
△ NOPIK 372412N 1253905E	20.0 097° 278°		8 000 ft AMSL (2 200 ft)				
△ GOGET 372442N 1263036E	41.0		Class A, D and G				
▲ ANYANG VORTAC(SEL)	098° 278° 20.0		8 000 ft AMSL (3 400 ft)			↑	
372449N 1265542E	087° 267° 22.0		7 500 ft AMSL (3 500 ft)			↓	
△ EGOBA 372915N 1272246E	087° 267° 13.9		Class A, D and G				
△ KARBU 373159N 1273952E	087° 268° 44.7	(44/45)	7 500 ft AMSL (7 500 ft)				
△ BIKSI 374032N 1283504E	088° 268° 8.2		7 500 ft AMSL (7 500 ft)				
▲ GANGWON VORTAC(KAE) 374203N 1284514E	130° 310° 30.0		8 000 ft AMSL (7 000 ft)				
▲ PILIT 372631N 1291731E	130° 310° 27.5		9 000 ft AMSL (7 000 ft)				
△ DADAS 371210N 1294656E	130° 311° 50.8		Class A, D and G				
△ AGSUS 364521N 1304044E	131° 311° 42.9		9 000 ft AMSL (1 500 ft)				
▲ LANAT 362224N 1312542E 362213N 1312551E <sup>5)</sup>	5) <i>BESSEL datum</i>		9 000 ft AMSL (1 500 ft)			↑	
INCHEON FIR							
FUKUOKA FIR							

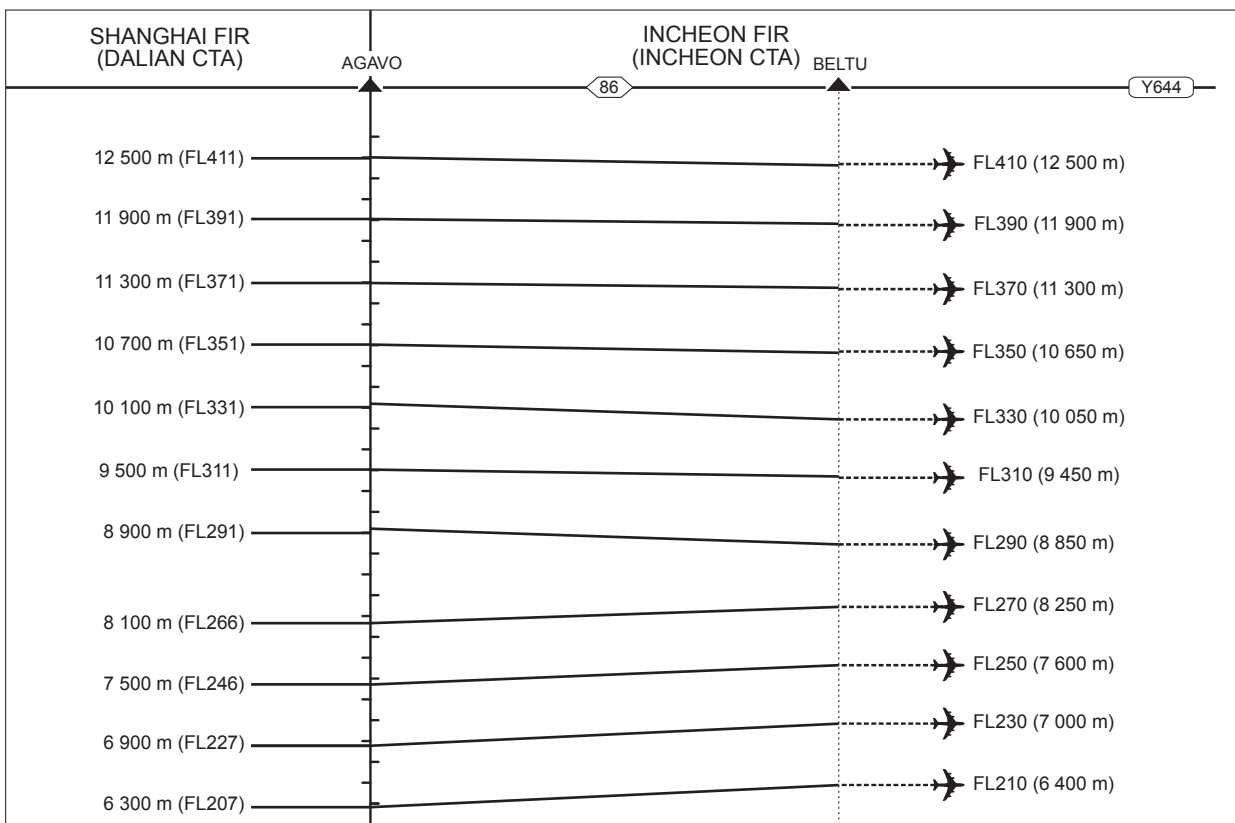
Change : Information of remarks withdrawal of direction of cruising levels.



**ALTITUDE CONVERSION FROM INCHEON CTA TO DALIAN CTA (RVSM)**



**FROM DALIAN CTA TO INCHEON CTA**



Change : Information of altitude conversion.



**INTENTIONALLY**

**LEFT**

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3.1.2 DOMESTIC ATS ROUTES

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑ / ↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
				Odd	Even	
1	2	3	4	5		6
<b>V11</b>						
▲ PILIT 372631N 1291731E	182° 002°	9 000 ft AMSL (7 000 ft) Class A, D and G	8		↓	<b>Daegu ACC</b> FREQ : 134.175 MHz 120.575 MHz 123.65 MHz 119.375 MHz 122.75 MHz <sup>1)</sup>
△ NOBUT 370715N 1291957E	19.3	9 000 ft AMSL (6 400 ft) Class A, D and G				1) Common frequency
△ LOSTO 362016N 1292548E	47.2	9 000 ft AMSL (3 000 ft) Class A, D and G				1. 11 000 ft to FL 240, at or above FL 280 will be blocked.
▲ POHANG VORTAC(KPO) 355838N 1292828E	21.7	9 000 ft AMSL (4 200 ft) Class A, D and G				2. At or above 11 000 ft, required 15 days PPR from Air Traffic Management Office
△ APARU 352442N 1290932	37.2	9 000 ft AMSL (4 400 ft) Class A, D and G				3. Airspace Classification refer to ENR 3.1-1
▲ BUSAN VORTAC(PSN) 350721N 1285958E	212° 032°	9 000 ft AMSL (4 400 ft) Class A, D and G			↑	
	19.0	Class A, D and G				

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑ / ↓ VOR RDL DIST (COP)		Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address	
					Odd	Even		
1	2		3	4	5		6	
<b>V543</b>								
△ DALSU 350731N 1264206E	(7/101)	097° 277°	8 000 ft AMSL (2 500 ft)	10	↓		<b>Incheon ACC</b> FREQ : 120.725 MHz 128.30 MHz 123.725 MHz 124.50 MHz 132.20 MHz <sup>1)</sup> 1) Common frequency  Airspace Classification refer to ENR 3.1-1	
△ GWANGJU VOR(KWA) 350734N 1264844E		5.4	8 000 ft AMSL (2 000 ft)					
△ SAMUL 350736N 1265154E		2.6	8 000 ft AMSL (5 200 ft)					
△ TEDAN 350744N 1271852E		22.1	8 000 ft AMSL (8 000 ft)					
△ ANUBA 350746N 1273523E		13.5	8 000 ft AMSL (8 000 ft)					
△ SAPDI 350737N 1282952E		44.7	8 000 ft AMSL (3 300 ft)					
△ SARAM 350736N 1283147E		1.6	8 000 ft AMSL (4 000 ft)					
△ KANBO 350730N 1284616E		11.9	8 000 ft AMSL (3 500 ft)					↑
▲ BUSAN VORTAC(PSN) 350721N 1285958E		11.2	8 000 ft AMSL (3 500 ft)					
<b>V547</b>								
△ GWANGJU VOR(KWA) 350734N 1264844E	(48/48)	072° 252°	10 000 ft AMSL 9 000 ft AMSL (8 600 ft)	10	↓		<b>Incheon ACC</b> FREQ : 123.725 MHz 124.50 MHz 132.20 MHz <sup>3)</sup> 3) Common frequency  Airspace Classification refer to ENR 3.1-1	
△ IGDOK 353104N 1274907E		54.7	Class D					
▲ DALSEONG VORTAC(TGU) 354835N 1283527E		41.6	10 000 ft AMSL 9 000 ft AMSL (5 000 ft)					Class D

Change : Information of Incheon ACC FREQ.

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑ / ↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address	
				Odd	Even		
1	2	3	4	5		6	
<b>V549</b>							
▲ GUNSAN VORTAC(KUZ) 355437N 1263641E	101° 281°	(48/48)	10 000 ft AMSL 7 000 ft AMSL (1 700 ft) Class D	10	↓	<b>Incheon ACC</b> FREQ : 132.15 MHz 126.175 MHz 123.55 MHz 134.375 MHz 132.20 MHz <sup>1)</sup> 1) <i>Common frequency</i>  Airspace Classification refer to ENR 3.1-1	
△ RINBO 355352N 1265349E	13.9		10 000 ft AMSL 7 000 ft AMSL (3 500 ft) Class D				
△ MELES 355251N 1271542E	101° 281°		10 000 ft AMSL 7 000 ft AMSL (5 000 ft) Class D				
▲ OPEDA 355149N 1273652E	17.8		10 000 ft AMSL 7 000 ft AMSL (6 600 ft) Class D				
▲ DALSEONG VORTAC(TGU) 354835N 1283527E	101° 281°		10 000 ft AMSL 7 000 ft AMSL (6 600 ft) Class D				
▲ POHANG VORTAC(KPO) 355838N 1292828E	102° 282°	6 000 ft AMSL (5 400 ft) Class A, D and G	10		↑	<b>Daegu ACC</b> FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>2)</sup> 2) <i>Common frequency</i>  Airspace Classification refer to ENR 3.1-1	
△ LAPAL 355413N 1290452E	47.7						085° 265°
	24.6						085° 265°
<b>W45</b>							
▲ GWANGJU TACAN(KWJ) 350710N 1264851E	097° 277°	(30/78)	8 000 ft AMSL (8 000 ft) Class A, D and G	10	↓	<b>Incheon ACC</b> FREQ : 123.725 MHz 124.50 MHz 132.20 MHz <sup>3)</sup> 3) <i>Common frequency</i> Between PIPOL and BOKUM 11 000 ft AMSL to FL 190 VMC-IMC use for training purpose.  Airspace Classification refer to ENR 3.1-1	
△ PIPOL 350730N 1273456E	38.5		8 000 ft AMSL (8 000 ft) Class A, D and G				
△ BOKUM 350731N 1282952E	097° 278°		8 000 ft AMSL (4 000 ft) Class A, D and G				
▲ BUSAN VORTAC(PSN) 350721N 1285958E	45.1		8 000 ft AMSL (4 000 ft) Class A, D and G				
	098° 278°	Between PIPOL and BOKUM 11 000 ft AMSL to FL 190 VMC-IMC use for training purpose.  Airspace Classification refer to ENR 3.1-1			↑	<b>Daegu ACC</b> FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>4)</sup> 4) <i>Common frequency</i>	
	24.7						

Change : Information of Incheon ACC FREQ.

Route designator (RNP/RNAV) Name of significant points Coordinates	Track MAG ↑/↓ VOR RDL DIST (COP)	Upper limits Lower limits or Minimum altitude Airspace classification	Lateral limits NM	Direction of cruising levels		Remarks Controlling unit channel Logon address
				Odd	Even	
1	2	3	4	5		6
<b>W61</b>						
▲ SONGTAN VORTAC(SOT) 370540N 1270154E	316° 135°	8 000 ft AMSL (2 400 ft)	10		↓	<b>Incheon ACC</b>  FREQ : 128.70 MHz 132.80 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1
△ MONSI 371247N 1265015E	11.7	Class A, D and G				
△ GOGET 372442N 1263036E	316° 135°	8 000 ft AMSL (2 700 ft)		↑		
	19.7	Class A, D and G				
<b>W62</b>						
▲ SONGTAN VORTAC(SOT) 370540N 1270154E	043° 224°	FL 140 (4 600 ft)	10		↓	<b>Incheon ACC</b>  FREQ : 128.70MHz 132.80MHz 132.20 MHz <sup>2)</sup>  2) Common frequency  Airspace Classification refer to ENR 3.1-1
△ EGOBA 372915N 1272246E	28.8	Class A, D and G			↑	
<b>W69</b>						
▲ DALSEONG VORTAC(TGU) 354835N 1283527E	192° 012°	5 000 ft AMSL (4 900 ft)	10		↓	<b>Daegu ACC</b>  FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>3)</sup>  3) Common frequency  Airspace Classification refer to ENR 3.1-1
△ MASTA 352847N 1283340E	19.8	Class A, D and G				
△ SARAM 350736N 1283147E	192° 012°	5 000 ft AMSL (3 800 ft)				
	21.2	Class A, D and G				
▲ TOPAX 344555N 1282952E	192° 012°	5 000 ft AMSL (3 200 ft)		↑		

**ENR 3.2 UPPER ATS ROUTES**

NIL

**INTENTIONALLY**

**LEFT**

**BLANK**



ENR 3.3 AREA NAVIGATION (RNAV) ROUTES

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency	
				Lower limits or Airspace classification	5		Odd	Even				8
1	2	3	4	5	6	7	8	9	10			
<b>L512 (RNAV5) [DME/DME, INS or IRS,GNSS]</b> <b>▲ TENAS</b> 373820N 1313427E  <b>▲ SABET</b> 373829N 1324019E  <b>▲ ANDOL</b> 373958N 1330000E											<b>Daegu ACC</b> FREQ : 122.25 MHz 125.925 MHz 122.75 MHz <sup>1)</sup> 1) Common frequency Airspace Classification refer to ENR 3.1-1 * L512 OPS HR between TENAS and ANDOL - EASTBOUND : H24 - WESTBOUND : H24 **After ANDOL, MEA is FL 290, see AIP JAPAN ***Extended DME DOC volume service is 210 NM	
		098(89.5) <sup>°</sup> 279(270.2) <sup>°</sup>	52.3	Class A and G	FL 270** (1500 ft)	↓			(*)			
		093(84.5) <sup>°</sup> 273(264.7) <sup>°</sup>	15.7							(*)		
FUKUOKA FIR												
(*1) Critical DME : KAE<TENAS/SABET>, KPO<TENAS/SABET> (*2) Critical DME : KAE<SABET/ANDOL>, KPO<SABET/ANDOL>												
SHANGHAI FIR												
INCHEON FIR												
<b>Y644 (RNAV5) [VOR/DME, DME/DME, INS or IRS,GNSS]</b> <b>▲ AGAVO</b> 371010N 1235953E 371000N 1240000E <sup>3)</sup> <b>△ RILRO</b> 371033N 1241442E <b>▲ GONAV</b> 371048N 1242453E <b>△ BODOL</b> 371122N 1244954E <b>△ REBIT</b> 371203N 1252913E <b>△ BELTU</b> 371218N 1254759E <b>△ BOGAN</b> 371241N 1262812E <b>△ MONSI</b> 371247N 1265015E <b>▲ POLEG</b> 371249N 1265935E <b>△ EGOBA</b> 372915N 1272246E	3) BESSEL datum											
		096(88.0) <sup>°</sup> 276(268.2) <sup>°</sup>	11.8	Class A, D and G	FL 150 (1 500 ft)	↓						<b>Incheon ACC</b> FREQ : 128.70 MHz 132.80 MHz 132.20 MHz <sup>2)</sup> 2) Common frequency Eastbound(AGAVO-EGOBA) FL 410, FL 390, FL 370, FL 350, FL 330, FL 310, FL 290, FL 270, FL 250, FL 230. REF. ENR 3.1-10 for the detailed altitude conversion procedures. Airspace Classification refer to ENR 3.1-1
		096(88.2) <sup>°</sup> 276(268.3) <sup>°</sup>	8.1									
		096(88.3) <sup>°</sup> 277(268.5) <sup>°</sup>	20.0									
		097(88.5) <sup>°</sup> 277(268.9) <sup>°</sup>	31.4									
	SEL 268°/ 70.2 NM SOT 284°/ 74.4 NM	097(89.0) <sup>°</sup> 277(269.1) <sup>°</sup>	15.0									
	SEL 265°/ 55.5 NM SOT 285°/ 59.5 NM	097(89.1) <sup>°</sup> 278(269.5) <sup>°</sup>	32.1									
	SEL 249°/ 25.1 NM SOT 293°/ 27.8 NM	098(89.5) <sup>°</sup> 278(269.7) <sup>°</sup>	17.6									
	SEL 208°/ 12.8 NM SOT 316°/ 11.7 NM	098(89.7) <sup>°</sup> 278(269.8) <sup>°</sup>	7.5									
	SEL 174°/ 12.4 NM SOT 354°/ 7.4 NM	057(48.3) <sup>°</sup> 237(228.5) <sup>°</sup>	24.7									
	SEL 087°/ 22.0 NM SOT 044°/ 28.8 NM											

\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Change : Information of direction of cruising levels.



Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Z51 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>  △ BOPTA 364406N 1263658E  △ MOXID 362311N 1264359E  △ BEDES 360905N 1264844E										<b>Incheon ACC</b>  FREQ : 126.175 MHz 134.375 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1
		173(164.8) 353(344.9)	21.6	Class A, D and G	FL 150 (3900ft)		↓			
		173(164.7) 352(344.8)	14.6		FL 150 (3600ft)					
<b>Z52 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>  △ OLMEN 364413N 1265928E  △ POSAN 365615N 1271316E  △ KAKSO 370745N 1272637E										<b>Incheon ACC</b>  FREQ : 126.175 MHz 125.375 MHz 120.575 MHz 132.20 MHz <sup>2)</sup>  2) Common frequency  Airspace Classification refer to ENR 3.1-1
		051(042.6) 231(222.8)	16.3	Class A, D and G	8 000 ft (3400ft)	↓				
		051(042.9) 231(223.0)	15.7		8 000 ft (3000ft)		↑			
<b>Z53 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>  △ BITUX 361645N 1280148E  △ BASEM 365037N 1275710E										<b>Daegu ACC</b>  FREQ : 125.375 MHz 120.575 MHz 125.775 MHz 119.375 MHz 122.75 MHz <sup>3)</sup>  3) Common frequency  Airspace Classification refer to ENR 3.1-1
		002(353.7) 182(173.7)	34.0	Class A, D and G	FL 160 (4600ft)		↓			
							↑			

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification	MEA (MOCA) ft or FL	Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Z63</b> (RNAV5) [VOR/DME, DME/DME, INS or IRS,GNSS]  ▲ PILIT 372631N 1291731E  △ NOMEX 374112N 1294441E									<b>Daegu ACC</b>  FREQ : 134.175 MHz 123.65 MHz 122.75 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1	
	KAE 129°/ 30.0 NM	064(067)° 244(236)°	26.1	Class A, and G	FL 250 (1500 ft)	↓				
	KAE 099°/ 47.2 NM						↑			
<b>Y655</b> (RNAV5) INS or IRS, GNSS]  ▲ GONAV 371048N 1242453E  △ DALPO 365835N 1242453E  △ NONOS 364046N 1242453E  △ DANPA 353036N 1242453E  △ PALSA 340131N 1242453E  △ TOLIS 335030N 1242453E  △ LIMDI 333313N 1254953E  △ REMOS 332605N 1262329E  ▲ JEJU VORTAC(CJU) 332305N 1263727E									<b>Incheon ACC</b>  FREQ : 132.80 MHz 128.70 MHz 126.17 MHz 120.725 MHz 124.525 MHz 132.20 MHz <sup>2)</sup>  2) Common frequency  Airspace Classification refer to ENR 3.1-1	
		188(180)° 008(360)°	12.2	Class A, D and G	FL 140 (1500 ft)	↓				
		188(180)° 008(360)°	17.8							
		188(180)° 008(360)°	70.1							
		188(180)° 007(360)°	88.9							
		187(180)° 007(360)°	11.0							
		110(103.3)° 291(284.1)°	73.0				FL 230 (1 500 ft)			
	CJU 292°/ 41.1 NM	111(104.1)° 292(284.4)°	29.0				FL 230 (4 100 ft)			
	CJU 292°/ 12.1 NM	112(104.4)° 292(284.5)°	12.1		FL 230 (8 700 ft)		↑			

\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Change : Establishment of DALPO, LIMDI, REMOS, JEJU VORTAC and Information of Y655 bearing, track and MEA.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency	
				Lower limits or Airspace classification	MEA (MOCA) ft or FL	Odd	Even				
1	2	3	4	5	6	7	8	9	10		
<b>Y711 (RNAV2) [DME/DME, DME/DME/IRU,GNSS]</b>											
△ MONSI 371247N 1265015E		189(181.2) 009(001.2)°	29.4	Class A, D and G	FL 140 (2 900 ft)		↓			<b>Incheon ACC</b>  FREQ: 132.80 MHz 128.70 MHz 126.175 MHz 120.725 MHz 124.525 MHz 128.375 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1	
△ BULTI 364322N 1264930E		186(178.2) 006(368.2)°	20.2		FL 140 (3 200 ft)		↓				
△ GONAX 362311N 1265016E		193(185.1) 013(005.1)°	14.1		FL 140 (3 200 ft)		↓				
△ BEDES 360905N 1264844E		193(185.1) 013(005.0)°	39.0		FL 140 (2 800 ft)		↓				
△ MANGI 353011N 1264432E		193(185.0) 013(005.0)°	22.7		FL 140 (3 800 ft)		↓				
△ DALSU 350731N 1264206E		193(185.0) 012(004.9)°	52.4		FL 140 (4 000 ft)		↓				
△ DOTOL 341515N 1263637E		192(184.9) 012(004.9)°	24.8		FL 140 (2 700 ft)		↓	(*1)			
△ KIDOS 335028N 1263402E		207(199.9) 027(019.8)°	25.9		FL 140 (6 300 ft)		↓				
△ REMOS 332605N 1262329E		207(199.8) 027(019.7)°	27.4		FL 140 (6 600 ft)		↓	(*2)			
△ PANSI 330014N 1261225E											
(*1) Critical DME : PSN<DOTOL/KIDOS>											
(*2) Critical DME : KUZ<REMOS/PANSI>, PSN<REMOS/PANSI>											
<b>Y711 (RNAV5) [VOR/DME, DME/DME, INS or IRS, GNSS]</b>											
△ PANSI 330014N 1261225E	CJU 223°/ 31.0 NM	207(199.9) 027(019.8)°	33.4	Class A, D and G	FL 140 (1 500 ft)		↓		(*3)		
△ DOMKO 322848N 1255859E	CJU 211°/ 63.1NM	207(199.8) 026(019.7)°	30.1		FL 140 (1 500 ft)		↓		(*4)		
△ PONIK 320021N 1254659E		206(199.8) 026(019.6)°	30.1		FL 140 (1 500 ft)		↓		(*5)		
△ KANKA 313155N 1253504E		206(199.8) 026(019.5)°	67.0		FL 140 (1 500 ft)		↓		(*6)		
△ BONSO 302840N 1250851E		206(199.5) 025(019.4)°	30.2		FL 140 (1 500 ft)		↓		(*7)		
▲ MUGUS 300006N 1245712E											
(*3) DME GAP : PANSI/DOMKO, GNSS, INS or IRS required.											
(*4) DME GAP : DOMKO/PONIK, GNSS, INS or IRS required.											
(*5) DME GAP : PONIK/KANKA, GNSS, INS or IRS required.											
(*6) DME GAP : KANKA/BONSO, GNSS, INS or IRS required.											
(*7) DME GAP : BONSO/KANKA, GNSS, INS or IRS required.											

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.

\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Change : Establishment of REMOS and Information of Y711 navigation specification, track and MEA.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Y722 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										
▲ SONGTAN VORTAC(SOT) 370540N 1270154E		$\frac{193(185.2)^{\circ}}{013(005.2)^{\circ}}$	21.5	Class A, D and G	FL 140 (2800 ft)	↑				Incheon ACC  FREQ: 132.80 MHz 128.70 MHz 126.175 MHz 120.725 MHz 124.525 MHz 128.375 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1
△ OLMEN 364413N 1265928E		$\frac{186(178.3)^{\circ}}{006(388.3)^{\circ}}$	21.0		FL 140 (3600 ft)	↑				
△ PEBRI 362311N 1270013E		$\frac{193(185.2)^{\circ}}{013(005.1)^{\circ}}$	29.5		FL 140 (2300 ft)	↑				
△ ATASO 355344N 1265657E		$\frac{193(185.2)^{\circ}}{013(005.1)^{\circ}}$	23.6		FL 140 (3800 ft)	↑				
△ MAKSA 353011N 1265422E		$\frac{193(185.1)^{\circ}}{013(005.1)^{\circ}}$	22.7		FL 140 (4000 ft)	↑				
△ SAMUL 350736N 1265154E		$\frac{193(185.1)^{\circ}}{012(005.0)^{\circ}}$	52.5		FL 140 (3400 ft)	↑				
△ KAMIT 341514N 1264618E		$\frac{192(185.0)^{\circ}}{012(005.0)^{\circ}}$	22.4		FL 140 (2100 ft)	↑				
△ GUKSU 335251N 1264357E		$\frac{192(185.0)^{\circ}}{012(005.0)^{\circ}}$	19.6		FL 140 (1700 ft)	↑	(*1)			
△ LOSNI 333315N 1264153E		$\frac{207(200.1)^{\circ}}{027(020.0)^{\circ}}$	10.8		FL 140 (7600 ft)	↑	(*2)			
▲ JEJU VORTAC(CJU) 332305N 1263727E		$\frac{207(200.0)^{\circ}}{027(019.9)^{\circ}}$	24.3		FL 140 (8700 ft)	↑	(*3)			
△ SOSDO 330012N 1262735E										
(*1) Critical DME : PSN<GUKSU/LOSNI> (*2) Critical DME : KUZ<LOSNI/CJU> (*3) Critical DME : KUZ<CJU/SOSDO>, PSN<CJU/SOSDO>										
<b>Y722 (RNAV5) [INS or IRS, GNSS]</b>										
△ SOSDO 330012N 1262735E		$\frac{207(200.1)^{\circ}}{027(019.9)^{\circ}}$	29.5	Class A, D and G	FL 140 (1500 ft)	↑				
△ SAMLO 323223N 1261536E		$\frac{207(200.0)^{\circ}}{026(019.8)^{\circ}}$	30.2	Class A, D and G	FL 140 (1500 ft)	↑				
△ NIRAT 320354N 1260329E		$\frac{206(199.9)^{\circ}}{026(019.8)^{\circ}}$	30.2	Class A, D and G	FL 140 (1500 ft)	↑				
△ TESIM 313526N 1255128E										
▲ ATOTI 300013N 1251154E		$\frac{206(200.0)^{\circ}}{025(019.6)^{\circ}}$	100.9	Class A, D and G	FL 140 (1500 ft)	↑				

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.  
\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Change : Information of frequency.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification	MEA (MOCA) ft or FL	Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Z50 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b>  FREQ: 128.70 MHz 126.175 MHz 134.175 MHz 132.20 MHz <sup>1)</sup>
△ EGOBA 372915N 1272246E		224(215.4) <sup>o</sup> 043(035.2) <sup>o</sup>	28.8	Class A, D and G	FL 140 (3300ft)		↓			1) Common frequency
▲ SONGTAN VORTAC(SOT) 370540N 1270154E		212(204.1) <sup>o</sup> 032(024.0) <sup>o</sup>	24.4		FL 140 (2900ft)		↑			Airspace Classification refer to ENR 3.1-1
△ BULTI 364322N 1264930E										
<b>Z54 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b>  FREQ: 128.70 MHz 132.80 MHz 120.575 MHz 132.20 MHz <sup>2)</sup>
▲ SONGTAN VORTAC(SOT) 370540N 1270154E		316(307.4) <sup>o</sup> 135(127.3) <sup>o</sup>	11.7	Class A, D and G	8 000 ft (2400ft)		↓			2) Common frequency
△ MONSI 371247N 1265015E		315(307.3) <sup>o</sup> 135(127.1) <sup>o</sup>	19.7		8 000 ft (2300ft)		↑			Airspace Classification refer to ENR 3.1-1
△ GOGET 372442N 1263036E										
<b>Z81 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b>  FREQ: 120.725 MHz 128.30 MHz 124.525 MHz 128.375 MHz 132.20 MHz <sup>3)</sup>
△ KIDOS 335028N 1263402E		181(174.0) <sup>o</sup> 001(354.1) <sup>o</sup>	27.5	Class A, D and G	FL 140 (8700ft)		↓	(*1)		3) Common frequency
▲ JEJU VORTAC(CJU) 332305N 1263727E										Airspace Classification refer to ENR 3.1-1
(*1) Critical DME : KUZ<KIDOS/CJU> PSN<KIDOS/CJU>										
<b>Z82 (RNAV5) [VOR/DME, DME/DME, INS or IRS,GNSS]</b>										<b>Incheon ACC</b>  FREQ: 120.725 MHz 128.30 MHz 124.525 MHz 128.375 MHz 132.20 MHz <sup>4)</sup>
▲ JEJU VORTAC(CJU) 332305N 1263727E		230(222.8) <sup>o</sup> 049(042.5) <sup>o</sup>	31.0	Class A, D and G	FL 140 (8700ft)		↓	(*1)		4) Common frequency
△ PANSI 330014N 1261225E										Airspace Classification refer to ENR 3.1-1
(*1) Critical DME : KUZ<CJU/PANSI> PSN<CJU/PANSI>										

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.  
\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Change : Information of frequency.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency	
				Lower limits or Airspace classification	MEA (MOCA) ft or FL	Odd	Even				
1	2	3	4	5	6	7	8	9	10		
<b>Y253</b> <b>(RNAV2)</b> <b>[DME/DME, DME/DME/IRU, GNSS]</b>											
△ DALSU 350731N 1264206E		097(89.4) 277(269.4)°	5.4	Class A, D and G	8 000 ft (2400 ft)	↓			(*1)	<b>Incheon ACC</b> FREQ : 123.725 MHz 124.50 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency Airspace Classification refer to ENR 3.1-1	
△ GWANGJU VOR(KWA) 350734N 1264844E		097(89.6) 277(269.6)°	2.6		8 000 ft (2000 ft)				(*2)		
△ SAMUL 350736N 1265154E		097(89.5) 277(269.8)°	22.1		8 000 ft (5200 ft)						(*3)
△ TEDAN 350744N 1271852E		097(89.8) 277(269.9)°	13.5		8 000 ft (5400 ft)						(*4)
△ ANUBA 350746N 1273523E		097(89.9) 278(270.5)°	44.7		8 000 ft (5400 ft)						(*5)
△ SAPDI 350737N 1282952E		098(90.4) 278(270.4)°	1.6		8 000 ft (2400 ft)						(*6)
△ SARAM 350736N 1283147E		098(90.5) 278(270.6)°	11.9		8 000 ft (4000 ft)						(*7)
△ KANBO 350730N 1284616E		098(90.6) 278(270.7)°	11.2		8 000 ft (3500 ft)						(*8)
▲ BUSAN VORTAC(PSN) 350721N 1285958E											
(*1) DME GAP : DALSU/KWA, GNSS or DME/DME/IRU required. (*2) DME GAP : KWA/SAMUL, GNSS or DME/DME/IRU required. (*3) DME GAP : SAMUL/TEDAN, GNSS or DME/DME/IRU required. (*4) Critical DME : TGU<TEDAN/ANUBA> (*5) Critical DME : TGU<ANUBA/SAPDI>, PSN<ANUBA/SAPDI> (*6) Critical DME : TGU<SAPDI/SARAM>, PSN<SAPDI/SARAM> (*7) DME GAP : SARAM/KANBO, GNSS or DME/DME/IRU required. (*8) DME GAP : KANBO/PSN, GNSS or DME/DME/IRU required.											
<b>Z83</b> <b>(RNAV2)</b> <b>[DME/DME, DME/DME/IRU, GNSS]</b>											
▲ DALSEONG VORTAC(TGU) 354835N 1283527E		192(184.2) 012(4.2)°	19.8	Class A, D and G	5 000 ft (4 900 ft)	↓			(*1)	<b>Daegu ACC</b> FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>3)</sup>  3) Common frequency Airspace Classification refer to ENR 3.1-1	
△ MASTA 352847N 1283340E		192(184.2) 012(4.2)°	21.2		5 000 ft (3 800 ft)						(*2)
△ SARAM 350736N 1283147E		192(184.2) 012(4.2)°	21.7		5 000 ft (3 000 ft)						(*3)
▲ TOPAX 344555N 1282952E											
(*1) Critical DME : PSN<TGU/MASTA>, KPO<TGU/MASTA> (*2) Critical DME : PSN<MASTA/SARAM>, TGU<MASTA/SARAM> (*3) Critical DME : PSN<SARAM/TOPAX>, TGU<SARAM/TOPAX>											

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.

Change : Information of Incheon ACC FREQ.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency	
				Lower limits or Airspace classification		Odd	Even				
1	2	3	4	5	6	7		8	9	10	
<b>Y744</b> (RNAV2) [DME/DME, DME/DME/IRU, GNSS]  ▲ PILIT 372631N 1291731E  △ NOBUT 370715N 1291957E  △ LOSTO 362016N 1292548E  ▲ POHANG VORTAC(KPO) 355838N 1292828E  △ APARU 352442N 1290932E  ▲ BUSAN VORTAC(PSN) 350721N 1285958E										<b>Daegu ACC</b> FREQ: 134.175 MHz 120.575 MHz 123.65 MHz 119.375 MHz 122.75 MHz <sup>1)</sup>  1) Common frequency  1. 11 000 ft to FL 240, at or above FL 280 will be blocked.  2. At or above 11 000 ft, required 15 days PPR from Air Traffic Management Office  3. Airspace Classification refer to ENR 3.1-1	
		183(174.2) 003(354.3)°	19.3	Class A, D and G	9 000 ft (4 900 ft)	↓			(*1)		
		182(174.2) 002(354.3)°	47.2		9 000 ft (5 600 ft)			(*2)			
		182(174.3) 002(354.3)°	21.7		9 000 ft (2 100 ft)			(*3)			
		212(204.6) 032(24.4)°	37.2		9 000 ft (4 400 ft)			(*4)			
		212(204.4) 032(24.3)°	19.0		9 000 ft (4 400 ft)		↑	(*5)			
(*1) DME GAP : PILIT/NOBUT, GNSS or DME/DME/IRU required. (*2) Critical DME : KAE<NOBUT/LOSTO>, TGU<NOBUT/LOSTO> (*3) Critical DME : PSN<LOSTO/KPO> (*4) Critical DME : TGU<KPO/APARU>, PSN<KPO/APARU> (*5) Critical DME : TGU<APARU/PSN>, KPO<APARU/PSN>											
<b>Y233</b> (RNAV2) [DME/DME, DME/DME/IRU, GNSS]  △ BUSKO 374033N 1301610E  △ SELPA 375515N 1304911E  △ ONATA 382832N 1320602E  ▲ KANSU 383800N 1322830E										<b>Daegu ACC</b> FREQ : 122.25 MHz 125.925 MHz 122.75 MHz <sup>2)</sup>  2) Common frequency  Airspace Classification refer to ENR 3.1-1	
		069(060.5) 249(240.9)°	30.0	Class A, D and G	FL 200 (1 500 ft)	↓			(*1)		
		069(060.9) 250(241.7)°	69.1						(*2)		
		070(61.7) 251(241.9)°	20.0								(*3)
								↑			
(*1) Critical DME : KAE<BUSKO/SELPA>, KPO<BUSKO/SELPA> (*2) Critical DME : KAE<SELPA/ONATA>, KPO<SELPA/ONATA> (*3) DME GAP : ONATA/KANSU, GNSS or DME/DME/IRU required.											

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.



Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification			Odd	Even			
1	2	3	4	5	6	7	8	9	10		
<b>Y579</b> (RNAV5) [VOR/DME, DME/DME, INS or IRS, GNSS]											<b>Daegu ACC</b> FREQ: 122.25 MHz 134.375 MHz 120.575 MHz 125.925 MHz 122.75 MHz <sup>1)</sup>  1) <i>Common frequency</i> Prior permission is needed from ROKAF except during the following times,  <b>Operational Hour(UTC)</b> - Weekdays : 1400-2200 - SAT: 2200 on the preceding until 2400 on the Saturday. - SUN : 0000-2200 - Holiday : 1400 on the preceding until 2200 on the holiday. Airspace Classification refer to ENR 3.1-1  <b>Daegu ACC</b> FREQ: 125.375 MHz 128.175 MHz 124.575 MHz 122.75 MHz <sup>2)</sup>  2) <i>Common frequency</i> Airspace Classification refer to ENR 3.1-1  <b>Incheon ACC</b> FREQ: 123.725 MHz 124.50 MHz 132.20 MHz <sup>3)</sup>  3) <i>Common frequency</i> Airspace Classification refer to ENR 3.1-1 ※ The cruising levels from CJU to RUGMA are even levels due to operational reasons ※ The cruising levels from RUGMA to CJU are odd levels due to operational reasons
▲ TENAS 373820N 1313427E		<u>228(219.3)</u> 047(38.8)°	68.1	Class A, D and G	FL 140 (1 500 ft)				(*)		
△ AGSUS 364521N 1304044E		<u>229(220.4)</u> 048(40.1)°	36.2								
▲ DABIK 361743N 1301143E		<u>228(220.1)</u> 048(39.9)°	28.1								
△ BULGA 355609N 1294924E	KPO 106°/ 17.2 NM	<u>228(219.9)</u> 047(39.6)°	40.2	Class A, D and G	FL 140 (2 800 ft)				(*)		
▲ BEDOM 352513N 1291754E	KPO 202°/ 34.5 NM	<u>227(220.4)</u> 047(39.4)°	23.1		FL 140 (4 000 ft)						
▲ BUSAN VORTAC(PSN) 350721N 1285958E	KPO 212°/ 56.2 NM TGU 162°/ 45.8 NM	<u>237(229.3)</u> 057(49.2)°	10.4		8 000 ft (3 000 ft)						
△ OMOTU 350033N 1285022E	PSN 237°/ 10.4 NM TGU 173°/ 49.4 NM	<u>237(229.2)</u> 057(49.0)°	22.3	Class A, D and G	8 000 ft (3 200 ft)				(*)		
▲ TOPAX 344555N 1282952E	PSN 237°/ 32.7 NM TGU 192°/ 62.7 NM	<u>237(229.0)</u> 056(48.6)°	46.4		8 000 ft (2 500 ft)						
△ GOSBO 341517N 1274734E		<u>236(228.6)</u> 056(48.3)°	30.7		9 000 ft (1 700 ft)						
▲ MAKET 335452N 1271953E	CJU 055°/ 47.6 NM	<u>236(228.3)</u> 055(48.2)°	17.3	Class A, D and G	9 000 ft (1 500 ft)				(*)		
△ ATINA 334320N 1270423E	CJU 055°/ 30.3 NM	<u>235(228.2)</u> 055(47.9)°	30.3		9 000 ft (8 700 ft)						
▲ JEJU VORTAC(CJU) 332305N 1263727E		<u>169(161.9)</u> 349(342.0)°	24.0		9 000 ft (8 700 ft)						
△ TOSAN 330012N 1264619E	CJU 169°/ 24.0 NM	<u>169(161.9)</u> 349(342.0)°	31.5	Class A, D and G	9 000 ft (1 500 ft)				(*)		
▲ RUGMA 323012N 1265753E	CJU 169°/ 55.5 NM										
INCHEON FIR FUKUOKA FIR											

(\*1) Critical DME : KAE<TENAS/AGSUS>  
 (\*2) DME GAP : BULGA/PSN, GNSS or VOR/DME, INS or IRS required  
 (\*3) DME GAP : MAKET/CJU, GNSS or VOR/DME, INS or IRS required.  
 (\*4) Critical DME : PSN<CJU/TOSAN>, KWA<CJU/TOSAN>  
 (\*5) DME GAP : TOSAN/RUGMA, GNSS or VOR/DME, INS or IRS required.

Change : Information of Incheon ACC FREQ.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification	MEA (MOCA) ft or FL	Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Y657 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b> FREQ : 123.725 MHz 124.50 MHz 132.20 MHz <sup>1)</sup> 1) <i>Common frequency</i> Airspace Classification refer to ENR 3.1-1
△ GWANGJU VOR(KWA) 350734N 1264844E		072(64.3)° 253(244.9)°	54.7	10,000 ft AMSL 8 000 ft AMSL Class D	8 000 ft (7 100 ft)	↓			(*1)	<b>Daegu ACC</b> FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>2)</sup> 2) <i>Common frequency</i> Airspace Classification refer to ENR 3.1-1
△ IGDOK 353104N 1274907E		073(64.9)° 253(245.4)°	41.6		8 000 ft (4 500 ft)				(*2)	
▲ DALSEONG VORTAC(TGU) 354835N 1283527E						↑				
(*1) DME GAP : KWA/IGDOK, GNSS or DME/DME/IRU required (*2) Critical DME : KPO<IGDOK/TGU>, PSN<IGDOK/TGU>										
<b>Y659 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b> FREQ : 132.15 MHz 126.175 MHz 123.55 MHz 134.375 MHz 132.20 MHz <sup>3)</sup> 3) <i>Common frequency</i>
▲ GUNSAN VORTAC(KUZ) 355437N 1263641E		101(93.0)° 281(273.2)°	13.9	10,000 ft AMSL 7 000 ft AMSL Class D	7 000 ft (1 800 ft)	↓			(*1)	
△ RINBO 355352N 1265349E		101(93.2)° 281(273.6)°	17.8		7 000 ft (3 700 ft)				(*2)	Airspace Classification refer to ENR 3.1-1
△ MELES 355251N 1271542E		101(93.2)° 281(273.4)°	17.2		7 000 ft (5 000 ft)				(*3)	
▲ OPEDA 355149N 1273652E		101(93.6)° 282(274.1)°	47.7		7 000 ft (6 600 ft)				(*4)	<b>Daegu ACC</b> FREQ : 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>4)</sup> 4) <i>Common frequency</i>
▲ DALSEONG VORTAC(TGU) 354835N 1283527E		084(76.7)° 265(256.9)°	24.6	6 000 ft AMSL Class A, D and G	6 000 ft (4 200 ft)				(*5)	
△ LAPAL 355413N 1290452E		085(76.9)° 265(257.1)°	19.7		6 000 ft (3 300 ft)				(*6)	Airspace Classification refer to ENR 3.1-1
▲ POHANG VORTAC(KPO) 355838N 1292828E						↑				
(*1) DME GAP : KUZ/RINBO, GNSS or DME/DME/IRU required (*2) Critical DME : SEL<RINBO/MELES>, KUZ<RINBO/MELES> (*3) DME GAP : MELES/OPEDA, GNSS or DME/DME/IRU required (*4) Critical DME : KPO<OPEDA/TGU>, PSN<OPEDA/TGU> (*5) Critical DME : KPO<TGU/LAPAL>, PSN<TGU/LAPAL> (*6) Critical DME : TGU<LAPAL/KPO>, PSN<LAPAL/KPO>										

Change : Information of Incheon ACC FREQ.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification	MEA (MOCA) ft or FL	Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Y677</b> <b>(RNAV5)</b> <b>[GNSS, VOR/DME, DME/DME, INS or IRS]</b> <b>▲ JEJU VORTAC(CJU)</b> 332305N 1263727E  △ TAMNA 332815N 1271953E  <b>▲ SAMDO</b> 333503N 1281857E  INCHEON FIR FUKUOKA FIR									<b>Incheon ACC</b>  FREQ : 123.725 MHz 124.50 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency Airspace Classification refer to ENR 3.1-1	
		088(81.5) 269(261.9)	35.9	Class A, D and G	9 000 ft (8 700 ft)	↓			(*1)	<b>Daegu ACC</b>  FREQ: 128.175 MHz 124.575 MHz 122.75 MHz <sup>2)</sup>  2) Common frequency Airspace Classification refer to ENR 3.1-1
	CJU 088° 35.9NM	089(81.9) 270(262.5)	49.8		9 000 ft (2 000 ft)				(*2)	
	CJU 088° 85.7NM						↑			
(*1) DME GAP : CJU/TAMNA, GNSS or DME/DME/IRU required (*2) Critical DME : CJU<TAMNA/SAMDO>, PSN<TAMNA/SAMDO>										
SHANHAI FIR INCHEON FIR										<b>Incheon ACC</b>  FREQ : 128.70 MHz 132.80 MHz 132.20 MHz <sup>3)</sup>  3) Common frequency  Airspace Classification refer to ENR 3.1-1
<b>Z55</b> <b>(RNAV5)</b> <b>[GNSS INS OR IRS]</b> △ AGAVO 371010N 1235953E 371000N 1240000E <sup>4)</sup>  △ NONOS 364046N 1242453E		153(145.6) 333(325.8)	35.5	Class A, D and G	FL 140 (1 500 ft)					
							↑			
4) BESSEL datum										

Change : Information of direction of cruising levels.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency		
				Lower limits or Airspace classification		Odd	Even					
1	2	3	4	5	6	7	8	9	10			
<b>Y782 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b> FREQ: 128.70 MHz 120.525 MHz 132.20 MHz <sup>1)</sup>		
▲ ANYANG VORTAC(SEL) 372449N 1265542E		174(165.5) <sup>°</sup> 354(345.5) <sup>°</sup>	12.4	Class A, D and G	4 500 ft (3 000 ft)	↓			(*1)	1) Common frequency Airspace Classification refer to ENR 3.1-1		
▲ POLEG 371249N 1265935E		174(165.5) <sup>°</sup> 354(345.5) <sup>°</sup>	7.4		4 500 ft (2 000 ft)			(*2)				
▲ SONGTAN VORTAC(SOT) 370540N 1270154E		143(135.1) <sup>°</sup> 323(315.3) <sup>°</sup>	21.6		8 000 ft (3 300 ft)							
△ OSPOT 365018N 1272055E		143(135.3) <sup>°</sup> 323(315.4) <sup>°</sup>	10.4		8 000 ft (4 200 ft)							
△ VASLI 364252N 1273003E		143(135.4) <sup>°</sup> 324(315.6) <sup>°</sup>	21.9		10 000 ft (4 500 ft)			(*3)				
△ MAKDU 362712N 1274909E		144(135.6) <sup>°</sup> 324(315.7) <sup>°</sup>	14.6		8 000 ft (4 400 ft)			(*4)				
△ BITUX 361645N 1280148E		144(135.7) <sup>°</sup> 324(316.0) <sup>°</sup>	39.2		5 000 ft (3 600 ft)			(*5)				
▲ DALSEONG VORTAC(TGU) 354835N 1283527E		162(153.9) <sup>°</sup> 342(334.0) <sup>°</sup>	20.4		4 000 ft (3 000 ft)				(*6)		(*7)	2) Common frequency Airspace Classification refer to ENR 3.1-1
△ KALOD 353012N 1284626E		162(154.0) <sup>°</sup> 342(334.2) <sup>°</sup>	25.4									
▲ BUSAN VORTAC(PSN) 350721N 1285958E		162(154.2) <sup>°</sup> 342(334.3) <sup>°</sup>	26.6									
▲ APELA 344323N 1291400E								↑				
INCHEON FIR												
FUKUOKA FIR												

(\*1) DME GAP : SEL/POLEG, GNSS or DME/DME/IRU required  
 (\*2) Critical DME : SEL<POLEG/SOT>, KAE<POLEG/SOT>  
 (\*3) Critical DME : PSN<BITUX/TGU>, KPO<BITUX/TGU>  
 (\*4) Critical DME : PSN<TGU/KALOD>, KPO<TGU/KALOD>  
 (\*5) Critical DME : KPO<KALOD/PSN>, CJU<KALOD/PSN>  
 (\*6) Critical DME : KPO<PSN/APELA>, PSN<PSN/APELA>  
 (\*7) DME GAP : PSN/APELA, GNSS or DME/DME/IRU required below 7 000 ft.

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Y685 (RNAV2) [DME/DME, DME/DME/IRU, GNSS]</b>										<b>Incheon ACC</b> FREQ: 132.80 MHz 128.7 MHz 118.925 MHz 120.525 MHz 132.20 MHz <sup>1)</sup>
▲ ANYANG VORTAC(SEL) 372449N 1265542E		<u>133(124.5)°</u> 313(304.6)°	10.7	Class A, D and G	8 000 ft (3 200 ft)	↓			(*1)	1) Common frequency Only flying westbound from KPO to SEL on Y685 is authorized except ACFT departing from RKTY or RKT1.
▲ KALMA 371845N 1270645E		<u>133(124.6)°</u> 313(304.8)°	19.3		8 000 ft (2 900 ft)				(*2)	Aircraft flying eastbound from SEL to KPO at or above 11 000 ft on Y685 shall get PPR 24 hours before from Incheon/Daegu ACC. No PPR is needed at or below 10 000 ft.
△ KAKSO 370745N 1272637E		<u>133(124.8)°</u> 313(304.9)°	11.5		8 000 ft (3 600 ft)				(*3)	Airspace Classification refer to ENR 3.1-1
△ GUKDO 370111N 1273823E		<u>133(124.9)°</u> 313(305.1)°	18.4		8 000 ft (4 000 ft)					<b>Daegu ACC</b> FREQ: 120.575 MHz 119.375 MHz 134.375 MHz 122.75 MHz <sup>2)</sup>
△ BASEM 365037N 1275710E		<u>133(125.1)°</u> 313(305.2)°	12.5		8 000 ft (5 000 ft)					2) Common frequency
▲ BIGOB 364325N 1280952E		<u>133(125.2)°</u> 313(305.3)°	9.5		8 000 ft (4 900 ft)					Only flying westbound from KPO to SEL on Y685 is authorized except ACFT departing from RKTY or RKT1.
△ YECHEON VOR(CUN) 363755N 1281931E		<u>133(124.8)°</u> 313(305.1)°	30.8		8 000 ft (3 800 ft)					Aircraft flying eastbound from SEL to KPO at or above 11 000 ft on Y685 shall get PPR 24 hours before from Incheon/Daegu ACC. No PPR is needed at or below 10 000 ft.
△ ELAPI 362014N 1285051E		<u>133(125.1)°</u> 313(305.5)°	37.3		8 000 ft (4 700 ft)					(*4)
▲ POHANG VORTAC(KPO) 355838N 1292828E		<u>106(088.2)°</u> 286(278.4)°	17.2		8 000 ft (2 100 ft)					(*5)
△ BULGA 355609N 1294924E		<u>106(088.4)°</u> 287(278.9)°	44.4		8 000 ft (1 500 ft)					(*6)
▲ SAPRA 354926N 1304325E						↑				Airspace Classification refer to ENR 3.1-1
INCHEON FIR										
FUKUOKA FIR										
(*1) DME GAP : SEL/KALMA, GNSS or DME/DME/IRU required (*2) Critical DME : SEL<KALMA/KAKSO> (*3) Critical DME : KAE<KAKSO/GUKDO>, SEL<KAKSO/GUKDO> (*4) Critical DME : CUN<ELAPI/KPO> (*5) Critical DME : TGU<KPO/BULGA>, PSN<KPO/BULGA> (*6) Critical DME : KPO<BULGA/SAPRA>, PSN<BULGA/SAPRA>										

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.

Change : Information of controlling unit and frequency.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Z84</b> (RNAV2) [DME/DME, DME/DME/IRU, GNSS]  △ BUSAN VORTAC(PSN) 350721N 1285958E  ▲ KALEK 351232N 1295305E  INCHEON FIR FUKUOKA FIR										<b>Daegu ACC</b>  FREQ: 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1
		091(083.0) 271(263.5)	43.8	Class A, D and G	8 000 ft (3 100 ft)	↓		(*1)		
								↑		
(*1) Critical DME : TGU<PSN/KALEK> KPO<PSN/KALEK>										
<b>Z91</b> (RNAV2) [[DME/DME, DME/DME/IRU, GNSS]  ▲ BUSAN VORTAC(PSN) 350721N 1285958E  ▲ INVOK 344719N 1291923E  INCHEON FIR FUKUOKA FIR										<b>Daegu ACC</b>  FREQ: 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>2)</sup>  2) Common frequency  Airspace Classification refer to ENR 3.1-1
		149(141.3) 329(321.5)	25.6	Class A, D and G	10 000 ft (3 000 ft)	↓		(*1)		
								↑		
(*1) DME GAP : PSN/INVOK, GNSS or DME/DME/IRU required										
<b>Z85</b> (RNAV5) [VOR/DME, DME/DME, INS or IRS,GNSS]  ▲ RUGMA 323012N 1265753E  △ ATINA 334320N 1270423E										<b>Incheon ACC</b>  FREQ : 124.525 MHz 128.175 MHz 132.20 MHz <sup>3)</sup>  3) Common frequency  Airspace Classification refer to ENR 3.1-1
	CJU 169°/ 55.5 NM	191(184.3) 011(004.3)	73.2	Class A, D and G	FL 170 (1 600 ft)	↓		(*1)	(*2)	
	CJU 055°/ 30.3 NM							↑		
(*1) Critical DME : PSN<35.2 NM to ATINA/ATINA>, KWA<35.2 NM to ATINA/ATINA> (*2) DME GAP : RUGMA/35.2 NM to ATINA, GNSS, VOR/DME, INS or IRS required.										

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.  
\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Change : Information of controlling unit and frequency.



Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
SHANGHAI FIR										
INCHEON FIR										
<b>Y437 (RNAV5) [VOR/DME, DME/DME, INS or IRS, GNSS]</b>										<b>Daegu ACC</b>
▲ GANGWON VORTAC(KAE) 374203N 1284514E		<u>099(09.7)</u> 280(271.3)°	47.2		8 000 ft (6 400 ft)	↓			(*1)	FREQ : 122.25 MHz 125.925 MHz 122.75 MHz <sup>1)</sup> 1) Common frequency
△ NOMEX 374112N 1294441E	KAE 280° / 47.2 NM	<u>100(091.3)</u> 280(271.6)°	25.0	Class A,D and G	8 000 ft (1 500 ft)			(*2)		Airspace Classification refer to ENR 3.1-1
△ BUSKO 374033N 1301610E	KPO 196° / 103.3 NM	<u>100(091.6)</u> 281(272.4)°	62.2		8 000 ft (1 500 ft)			(*3)		
▲ TENAS 373820N 1313427E	KAE 281° / 134.4 NM	<u>044(035.3)</u> 224(215.5)°	20.0	Class A and G	FL 200 (1 500 ft)				(*4)	
△ MALSO 375440N 1314904E	KPO 235° / 141.9 NM	<u>044(035.5)</u> 225(215.9)°	53.3		FL 200 (1 500 ft)				(*5)	
▲ KANSU 383800N 1322830E						↑				
INCHEON FIR										
PYONGYANG FIR										
(*1) DME GAP : KAE/NOMEX, GNSS or DME/DME/IRU required (*2) Critical DME : KAE<NOMEX/BUSKO>, KPO<NOMEX/BUSKO> (*3) Critical DME : KAE<BUSKO/TENAS>, KPO<BUSKO/TENAS> (*4) DME GAP : TENAS/MALSO, GNSS or DME/DME/IRU required (*5) DME GAP : MALSO/KANSU, GNSS or DME/DME/IRU required										

\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits		MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification			Odd	Even			
1	2	3	4	5	6	7	8	9	10		
SHANGHAI FIR											
INCHEON FIR											
<b>Y697</b> <b>(RNAV2)</b> <b>[DME/DME, INS or IRS, GNSS]</b>											
▲ AGAVO 371010N 1235953E 371000N 1240000E <sup>2)</sup>		066(057.7) 246(237.8)	7.5	Class A, D and G	FL 150 (1500 ft)				(*1)		<b>Incheon ACC</b> FREQ : 128.70 MHz 132.80 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Westbound(SEL-AGAVO) FL400, FL380, FL360, FL340, FL320, FL300, FL280, FL260, FL240, FL220, FL200.  REF. ENR 3.1-9 for the detailed Altitude conversion procedures.  Only flying westbound from SEL to AGAVO on Y697 is authorized.
△ OLBIM 371411N 1240751E		066(057.8) 246(237.9)	16.2		FL 150 (1500 ft)				(*2)		
△ NOGON 372250N 1242505E		096(088.3) 277(268.6)	20.0		FL 150 (1500 ft)				(*3)		
△ ANSIM 372323N 1245009E		097(088.6) 277(268.8)	19.0		FL 150 (1500 ft)				(*4)		
△ BINIL 372349N 1251359E		097(088.8) 277(269.0)	20.0		FL 150 (1500 ft)				(*5)		
△ NOPIK 372412N 1253905E		097(089.0) 278(269.6)	41.0		8 000 ft (2 100 ft)				(*6)		
△ GOGET 372442N 1263036E		098(089.5) 278(269.8)	20.0		7 500 ft (3 400 ft)			↑		(*7)	
▲ ANYANG VORTAC(SEL) 372449N 1265542E		087(078.3) 267(258.5)	22.0		7 500 ft (3 400 ft)			↓		(*8)	
△ EGOBA 372915N 1272246E		087(078.5) 267(258.7)	13.9		7 500 ft (5 100 ft)					(*9)	
△ KARBU 373159N 1273952E		087(078.7) 268(259.3)	44.7		7 500 ft (7 500 ft)					(*10)	
△ BIKSI 374032N 1283504E		088(079.3) 268(259.4)	8.2		7 500 ft (7 100 ft)					(*11)	
▲ GANGWON VORTAC(KAE) 374203N 1284514E		130(121.0) 310(301.3)	30.0		8 000 ft (7 100 ft)					(*12)	
▲ PILIT 372631N 1291731E		130(121.3) 310(301.6)	27.5		9 000 ft (1 500 ft)					(*13)	
△ DADAS 371210N 1294656E		130(121.6) 310(302.1)	50.8		9 000 ft (1 500 ft)					(*14)	
△ AGSUS 364521N 1304044E		130(122.1) 311(302.5)	42.9		9 000 ft (1 500 ft)			↑		(*15)	
▲ LANAT 362224N 1312542E 362213N 1312551E <sup>2)</sup>										Airspace Classification refer to ENR 3.1-1	
INCHEON FIR											
2) BESSEL datum											
FUKUOKA FIR											
(*1) DME GAP : AGAVO/OLBIM GNSS or DME/DME/IRU required (*2) Critical DME : SEL<OLBIM/NOGON>, SOT<OLBIM/NOGON> (*3) Critical DME : KUZ<NOGON/ANSIM> (*4) Critical DME : KUZ<ANSIM/BINIL> (*5) Critical DME : KUZ<BINIL/NOPIK> (*6) Critical DME : KUZ<NOPIK/GOGET> (*7) DME GAP : GOGET/SEL, GNSS or DME/DME/IRU required (*8) Critical DME : KAE<SEL/EGOBA>, SOT<SEL/EGOBA> (*9) Critical DME : TGU<EGOBA/KARBU> (*10) Critical DME : TGU<KARBU/BIKSI> (*11) DME GAP : BIKSI/KAE, GNSS or DME/DME/IRU required (*12) DME GAP : KAE/PILIT, GNSS or DME/DME/IRU required (*13) DME GAP : PILIT/DADAS, GNSS or DME/DME/IRU required (*14) DME GAP : DADAS/AGSUS, GNSS or DME/DME/IRU required (*15) Critical DME : KAE<AGSUS/LANAT>											

\* RNAV2 represents a navigation accuracy of ±2 NM on a 95% containment basis.

Change : Information of remarks and withdrawal of direction of cruising levels.



Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) ft or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
PYONGYANG FIR										
INCHEON FIR										
<b>Z56</b> <b>(RNAV5)</b> <b>[VOR/DME, DME/DME, INS or IRS, GNSS]</b>										<b>Daegu ACC</b>
▲ KANSU 383800N 1322830E		180(171.0) 360(351.1)°	40.2		FL 200 (1 500 ft)	↓			(*1)	FREQ : 122.25 MHz 125.925 MHz 122.75 MHz <sup>1)</sup> 1) Common frequency
△ PALDU 375813N 1323625E	KPO 241° / 192.2 NM	180(171.1) 360(351.1)°	19.9	Class A and G	FL 200 (1 500 ft)				(*2)	Airspace Classification refer to ENR 3.1-1
▲ SABET 373829N 1324019E	KPO 247° / 183.5 NM	180(171.1) 360(351.1)°	19.9		FL 200 (1 500 ft)				(*3)	
▲ IGRAS 371846N 1324411E	KPO 253° / 176.6 NM					↑				
INCHEON FIR										
FUKUOKA FIR										
(*1) DME GAP : KANSU/PALDU, GNSS or DME/DME/IRU required (*2) DME GAP : PALDU/SABET, GNSS or DME/DME/IRU required (*3) DME GAP : SABET/IGRAS, GNSS or DME/DME/IRU required										

\* RNAV5 represents a navigation accuracy of ±5 NM on a 95% containment basis.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	Upper limits	MEA (MOCA) FT or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
				Lower limits or Airspace classification		Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Y781</b> <b>(RNAV2)</b> <b>[DME/DME, DME/DME/IRU, GNSS]</b>										
▲ DALSEONG VORTAC(TGU) 354835N 1283527E		192(184.2) 012(004.2)°	19.8		7 000 ft (4 900 ft)	↓			(*1)	<b>Daegu ACC</b> FREQ: 125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>2)</sup> 2) Common frequency
△ MASTA 352847N 1283340E		162(154.0) 342(334.2)°	23.6	Class A, D and G	7 000 ft (4 00 ft)				(*2) (*3)	
△ KANBO 350730N 1284616E		162(154.2) 342(334.2)°	7.7		7 000 ft (3 500 ft)				(*4)	Airspace Classification refer to ENR 3.1-1
△ OMOTU 350033N 1285022E		156(148.1) 336(328.3)°	27.3		7 000 ft (2 800 ft)				(*5)	
▲ BESNA 343718N 1290751E										
INCHEON FIR										
FUKUOKA FIR										
(*1) Critical DME : PSN<TGU/MASTA> (*2) Critical DME : PSN<MASTA/15.6 NM to KANBO> (*3) DME GAP : 15.6 NM to KANBO/KANBO, GNSS or DME/DME/IRU required. (*4) DME GAP : KANBO/OMOTU, GNSS or DME/DME/IRU required. (*5) DME GAP : OMOTU/BESNA, GNSS or DME/DME/IRU required.										

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	UPPER LIMITS / LOWER LIMITS or Airspace classification	MEA (MOCA) FT or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
						Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Z86</b> (RNAV5) [VOR/DME, DME/DME, INS or IRS,GNSS]  △ BONSO 302840N 1250851E  ▲ ATOTI 300013N 1251154E										<b>Incheon ACC</b>  FREQ: 124.525 MHz 132.20 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1
		181(174.7) 001(364.7)	28.5	Class A, D and G	FL 140 (1 500 ft)		↓		(*1)	

(\*1) DME GAP : BONSO/ATOTI, GNSS, INS or IRS required.

\* RNAV5 represents a navigation accuracy of ±5NM on a 95% containment basis.

Route designator (Navigation specification) Name of significant points Coordinates [Navigation Specification limitation]	Waypoint IDENT of VOR/DME BRG & DIST	MAG TRACK (TRUE TRACK)	Geodetic DIST	UPPER LIMITS / LOWER LIMITS or Airspace classification	MEA (MOCA) FT or FL	Direction of cruising levels		Critical DME	DME GAP	Remarks Controlling unit Frequency
						Odd	Even			
1	2	3	4	5	6	7	8	9	10	
<b>Z57</b> (RNAV5) [GNSS, INS or IRS]  △ RILRO 371033N 1241442E  △ DALPO 365835N 1242453E										<b>Incheon ACC</b>  FREQ: 128.7 MHz 132.8 MHz 132.2 MHz <sup>1)</sup>  1) Common frequency  Airspace Classification refer to ENR 3.1-1
		154(145.7) 334(325.8)	14.5	Class A, D and G	FL 150 (1 500 ft)	↓				

\* RNAV5 represents a navigation accuracy of ±5NM on a 95% containment basis.

Change : Establishment of Z57 routes.

ENR 3.4 HELICOPTER ROUTES

To be developed

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ENR 3.5 OTHER ROUTES

1. 관광비행로

이 비행로는 초경량비행장치 또는 경량항공기 비행이 많으므로 동 비행로 주변을 비행하는 항공기는 지정된 비행 경로를 회피하거나 주의하여 비행하여야 한다.

1. TOURIST ROUTES

Aircraft which want to fly around 「tourist routes」 have to beware of the published 「tourist routes」 or avoid them. Because 「tourist routes」 have a lot of traffic, Ultra light vehicle flight and light aircraft

Name 명칭	Flight routes coordinates 비행경로	Type of flight 비행방식	Remarks 비고
Danyang tourist route 단양 비행로	365623N 1281812E ↔ 365725N 1281958E ↔ 365847N 1282036E ↔ 365846N 1282219E ↔ 370018N 1282045E ↔ 370001N 1282312E ↔ 370148N 1282302E ↔ 370237N 1282450E ↔ 370337N 1282456E	VFR 시계비행	Fly at the right side of river 강을 중심으로 우측비행
Gumy tourist route 구미 비행로	360938N 1282306E ↔ 361135N 1282156E ↔ 361322N 1282140E ↔ 361456N 1282005E ↔ 361709N 1282021E		
Haman tourist route 함안 비행로	352008N 1282339E ↔ 352127N 1282302E ↔ 352140N 1282458E ↔ 352157N 1282543E ↔ 352313N 1282536E ↔ 352248N 1282822E ↔ 352347N 1283009E ↔ 352244N 1283321E		

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**ENR 3.6 EN-ROUTE HOLDING**

Except when aircraft are in emergency, all en-route holding patterns may only be used after prior permission from Incheon ACC.

HLDG ID FIX/WPT Coordinates	INBD TR (MAG)	Direction of PTN	MAX IAS (kt)	MNM-MAX HLDG LVL	Time (MIN)	Controlling Unit and Frequency
1	2	3	4	5	6	7
<b>MANOL</b> 333629N 1265514E (R055 CJU/D20)	235	L	280	FL 180 - FL 260	1.5	<b>Incheon ACC</b>  123.725 MHz 124.50 MHz 132.20 MHz <sup>2)</sup>
<b>SAKTI</b> 365100N 1274600E (R137 SEL/D53)	317	L	280	FL 180 - FL 200	1.5	<b>Daegu ACC</b>  120.575 MHz 119.375 MHz 134.375 MHz 122.75 MHz <sup>2)</sup>
<b>OROGA<sup>1)</sup></b> 364456N 1272718E (R143 SOT/D29)	323	R	280	FL 210 - FL 250	1.5	<b>Daegu ACC</b>  125.375 MHz 125.775 MHz 124.575 MHz 122.75 MHz <sup>2)</sup>
<b>BIGOB<sup>1)</sup></b> 364325N 1280952E (R132 SEL/D72)	312	R	280 0.83 MACH	FL 210 - FL 340 FL 340 - FL 360	1.5	<b>Daegu ACC</b>  120.575 MHz 119.375 MHz 134.375 MHz 122.75 MHz <sup>2)</sup>
<b>ATASO</b> 355344N 1265657E (RNAV HOLD)	012	R	280	FL 230 - FL 260	1.5	<b>Incheon ACC</b>  126.175 MHz 134.375 MHz 132.20 MHz <sup>2)</sup>
<b>NONOS</b> 364046N 1242453E (RNAV HOLD)	007	R	280	FL 200 - FL 310	1.5	<b>Incheon ACC</b>  128.70 MHz 120.525 MHz 132.20 MHz <sup>2)</sup>
<b>CJU</b> 332305N 1263727E (RNAV HOLD)	026	R	280 0.83 MACH	FL 270 - FL 340 FL 350	1.5	<b>Incheon ACC</b>  123.725 MHz 124.50 MHz 132.20 MHz <sup>2)</sup>
<b>SAMUL</b> 350736N 1265154E (RNAV HOLD)	012	R	280 0.83 MACH	FL 270 - FL 340 FL 350	1.5	<b>Incheon ACC</b>  123.725 MHz 124.50 MHz 132.20 MHz <sup>2)</sup>

1) FL 210 ~ FL 250 Shall not be used at the same time at BIGOB and OROGA  
2) Common frequency



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