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# BOSNIA AND HERZEGOVINA

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**SUP 004/2024**

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## **LQTZ – International Airport Tuzla – Trial PBN instrument flight procedures**

With this AIP SUP a trial PBN satellite based procedures RNP 1 STARs and RNP APCH RWY 09 are available for testing purposes at Tuzla Airport. The satellite instrument flight procedures are GNSS based and contain STARs and APCH flight procedures for RWY 09.

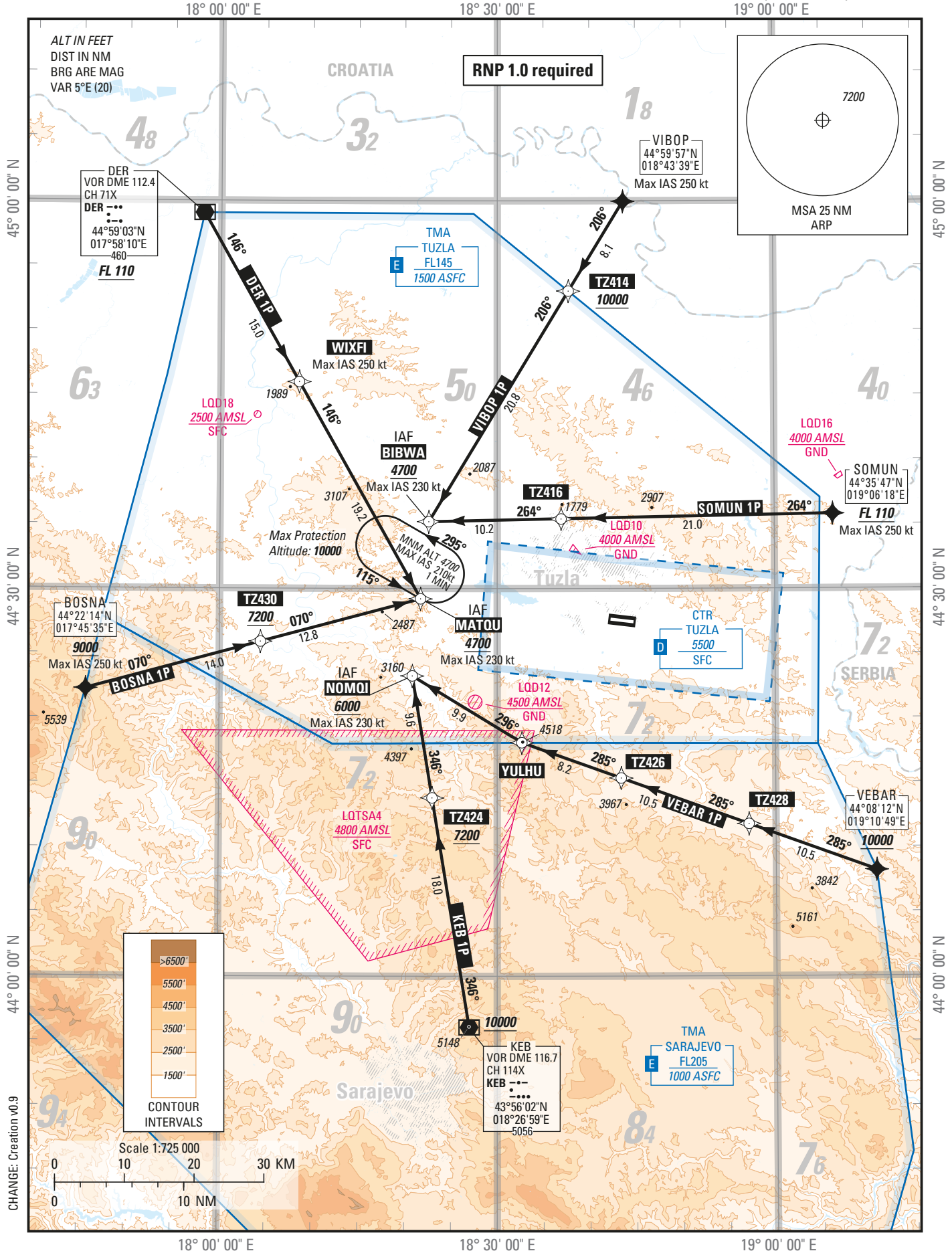
Trial PBN procedures are not intended for planning of operations. They are primarily published for flight validation and flyability check purpose with the aim of collecting and developing safety argumentation for PBN implementation in Bosnia and Herzegovina.

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

TRANSITION ALTITUDE  
10 000 ft

APP 120.350  
TWR 132.925

**TUZLA / TUZLA (LOTZ)**  
**RNP STAR RWY 09**  
BOSNA 1P, DER 1P, KEB 1P  
SOMUN 1P, VEBAR 1P, VIBOP 1P



CHANGE: Creation v0.9

STAR BOSNA 1P

Seq N°	PT	W/P ID	OverFly	Fix role	TD	RMD VHF	THETA (° magnetic)	RHO Val	RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val (°)
10	IF	BOSNA														+	9000.00 FT [ALT]		250.00 KT	1.000 NM				5	RW09	09	069.730	
20	IF	TZ430	N				074.730				TT			14.000	NM	+	7000.00 FT [ALT]			1.000 NM				5	RW09	09	069.730	
30	IF	MATCU	N				074.949				TT			12.816	NM	+	4700.00 FT [ALT]		230.00 KT	1.000 NM				5	RW09	09	069.949	

STAR DER 1P

Seq N°	PT	W/P ID	OverFly	Fix role	TD	RMD VHF	THETA (° magnetic)	RHO Val	RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val (°)
10	IF	DER														+	FL110 [STD]			1.000 NM				5	RW09	09	145.526	
20	IF	WXFI	N				150.506				TT			14.999	NM	+			250.00 KT	1.000 NM				5	RW09	09	145.526	
30	IF	MATCU	N				150.627				TT			19.247	NM	+	4700.00 FT [ALT]		230.00 KT	1.000 NM				5	RW09	09	145.627	

STAR KEB 1P

Seq N°	PT	W/P ID	OverFly	Fix role	TD	RMD VHF	THETA (° magnetic)	RHO Val	RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val (°)
10	IF	KEB														+	10000.00 FT [ALT]			1.000 NM				5	RW09	09	345.793	
20	IF	TZ424	N				350.793				TT			18.000	NM	+	7200.00 FT [ALT]			1.000 NM				5	RW09	09	345.793	
30	IF	NOMQJ	N				350.747				TT			9.559	NM	+	6000.00 FT [ALT]		230.00 KT	1.000 NM				5	RW09	09	345.747	

STAR SOMUN 1P

Seq N°	PT	W/P ID	OverFly	Fix role	TD	RMD VHF	THETA (° magnetic)	RHO Val	RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val (°)
10	IF	SOMUN														+	FL110 [STD]			1.000 NM				5	RW09	09	264.120	
20	IF	TZ416	N				269.120				TT			21.000	NM	+			250.00 KT	1.000 NM				5	RW09	09	264.120	
30	IF	BIBWA	N				268.793				TT			10.232	NM	+	4700.00 FT [ALT]		230.00 KT	1.000 NM				5	RW09	09	263.793	

STAR VEBAR 1P

Seq N°	PT	W/P ID	OverFly	Fix role	TD	RMD VHF	THETA (° magnetic)	RHO Val	RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val (°)
10	IF	VEBAR														+	10000.00 FT [ALT]			1.000 NM				5	RW09	09	285.004	
20	IF	TZ428	N				290.004				TT			10.500	NM	+				1.000 NM				5	RW09	09	285.004	
30	IF	TZ426	N				289.845				TT			10.500	NM	+				1.000 NM				5	RW09	09	284.845	
40	IF	YUJHU	N				289.685				TT			8.159	NM	+				1.000 NM				5	RW09	09	284.685	
50	IF	NOMQJ	N				301.401				TT			9.932	NM	+	6000.00 FT [ALT]		230.00 KT	1.000 NM				5	RW09	09	296.401	

STAR VIBOP 1P

Seq N°	PT	W/P ID	OverFly	Fix role	TD	RMD VHF	THETA (° magnetic)	RHO Val	RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val (°)
10	IF	VIBOP														+	10000.00 FT [ALT]			1.000 NM				5	RW09	09	206.288	
20	IF	TZ414	N				211.288				TT			8.118	NM	+			250.00 KT	1.000 NM				5	RW09	09	206.288	
30	IF	BIBWA	N				211.218				TT			20.046	NM	+	4700.00 FT [ALT]		230.00 KT	1.000 NM				5	RW09	09	206.218	

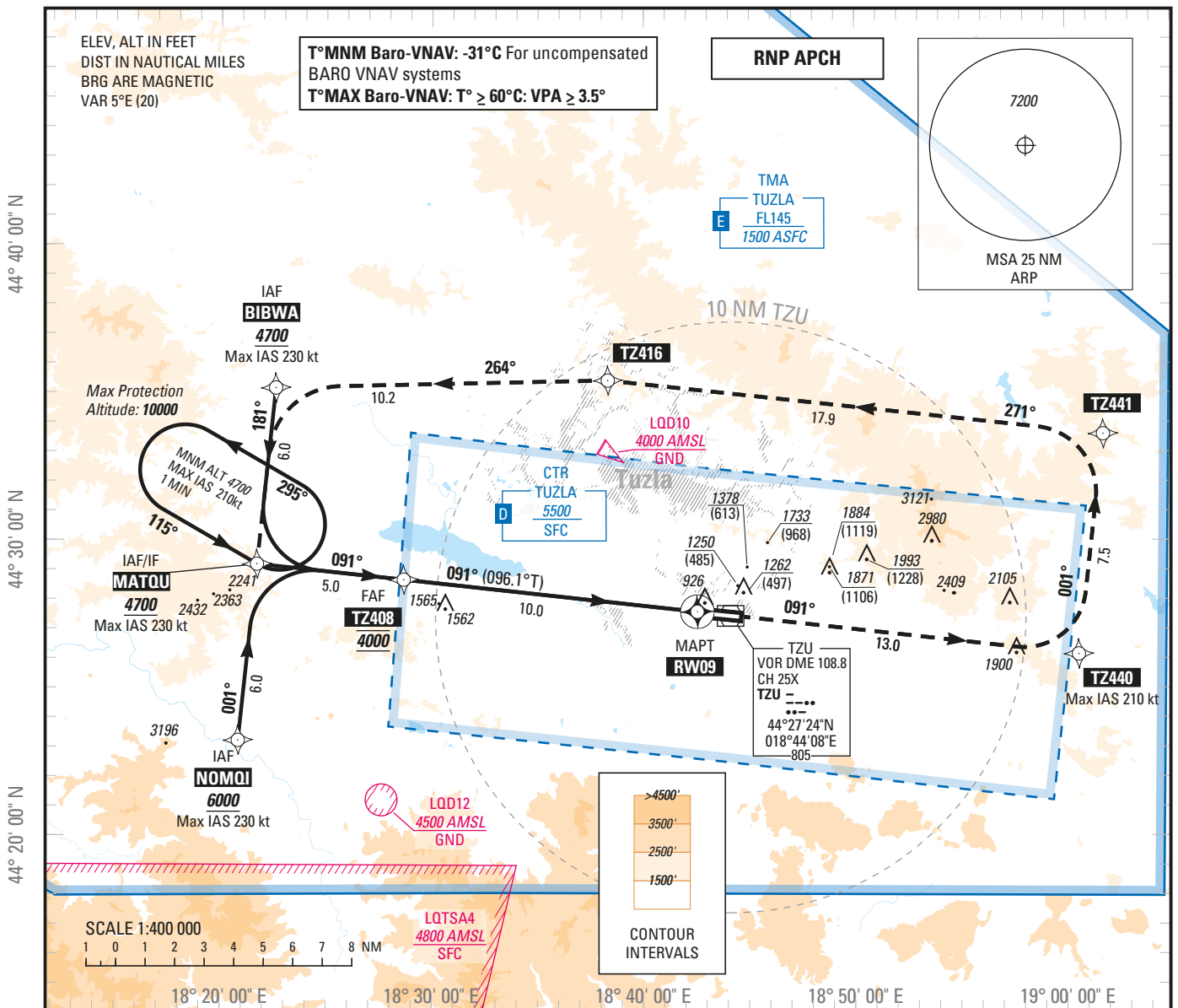
**INSTRUMENT APPROACH CHART — ICAO**

**SBAS CH 94984 E09A**

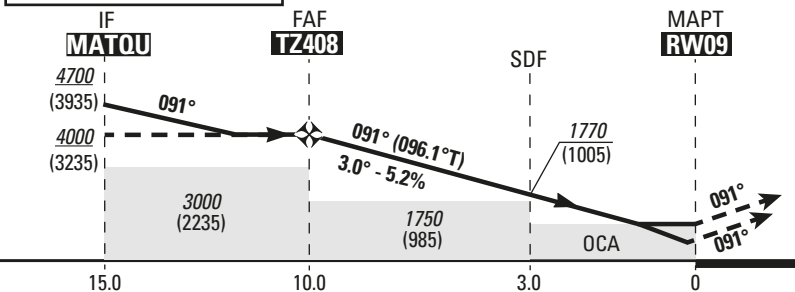
**AERODROME ELEV 779 ft**  
 HEIGHTS RELATED TO THR RWY 09 — ELEV 765 ft

APP 120.350  
 TWR 132.925

**TUZLA / TUZLA (LQTZ)**  
**RNP RWY 09**



**TRANSITION ALT 10 000**



**MISSED APPROACH:**

Climb to **TZ440** on course **091°M** (Max IAS 210 kt), then to **TZ441**, then to **TZ416**, then to **BIBWA**, then to **MATQU** climbing to **4700** (3935). Max IAS 230 kt. At **MATQU**, hold or follow ATC instructions.

**RDH 51** THR ELEV 765

CAT	LPV	LNAV/VNAV				LNAV			Circling (1)	
	MA 2.5%	MA 2.5%	MA 3.0%	MA 4.0%	MA 2.5%	MA 3.0%	MA 4.0%			
A	OCA (H)	OCA (H)	OCA (H)	OCA (H)	OCA (H)	OCA (H)	OCA (H)	OCA (H)		
B	970 (200)	1190 (430)	1100 (340)	1040 (270)	1350 (590)	1240 (480)	1190 (430)	1680 (910)		
C	970 (200)	1200 (440)	1110 (350)	1050 (290)	1370 (610)	1270 (510)	1230 (470)	2030 (1270)		
D	980 (210)	1220 (460)	1130 (370)	1070 (310)	1400 (630)	1300 (540)	1270 (510)	2280 (1520)		
	990 (220)	1250 (480)	1160 (400)	1110 (340)	1420 (650)	1330 (560)	1300 (540)	2390 (1630)		
FAF - RW09 (NM)	10.0	Speed Time	70 Kt 8 min 35	85 Kt 7 min 04	100 Kt 6 min 00	115 Kt 5 min 13	130 Kt 4 min 37	145 Kt 4 min 08	160 Kt 3 min 45	185 Kt 3 min 15
Slope (%)	5.2	VSP (ft/min)	370	450	525	605	685	765	845	975

(1) Circling are prohibited South side of the runway 09/27

**DIST RW09**

NM	9	8	7	6	5	4	3	2
ALT (HGT)	3680 (2915)	3360 (2595)	3050 (2285)	2730 (1965)	2410 (1645)	2090 (1325)	1770 (1005)	1450 (685)

CHANGE: creation v0.9

## HOLDINGS

Region Code	ICAO Code	Duplicate Identifier	Type	W/P ID	Name	Inbound CRS Val (°)	Inbound CRS Type	TD	Inbound length val	Inbound length uom	Inbound time val	Inbound time uom	ALT MIN	ALT MAX	SPD LMT	NAV PERF	ARC RADIUS val	ARC RADIUS uom	Magnetic CRS val(°)
LQZ	LQ		TER	MATQU		120.000	TBRG	L			60.000	S	4700.00 FT [ALT]	10000.00 FT [ALT]	210 KT				115.000

## APPROACH R09

Seq N°	PT	W/P ID	Overfly	Fix role	TD	RMD VHF	THETA (°) magnetic	RHO Val RHO uom	CRS Val (°)	CRS Type	TIME val	TIME uom	DIST val	DIST uom	ALT DESC	ALT ONE	ALT TWO	SPD LMT	VRT ANG (°)	NAV PERF	RADIUS val	RADIUS uom	ARC CTR ID	Phase	Transition Identifier	Runway Direction	Magnetic CRS val(°)
10	IF	BIBWA		IAF											+	4700.00 FT [ALT]		230.00 KT	1.000 NM	1.000 NM			A	BIBWA		181.041	
20	TF	MATQU	N				186.041		186.041	TT			5.000	NM	+	6000.00 FT [ALT]		230.00 KT	1.000 NM	1.000 NM			A	BIBWA		181.041	
10	IF	NOMQJ		IAF											+	4700.00 FT [ALT]		230.00 KT	1.000 NM	1.000 NM			A	NOMQJ		001.021	
20	TF	MATQU	N				006.021		006.021	TT			6.000	NM	+	4700.00 FT [ALT]		230.00 KT	1.000 NM	1.000 NM			A	NOMQJ		001.021	
10	IF	MATQU		IF											+	4700.00 FT [ALT]		230.00 KT	1.000 NM	1.000 NM			R		09		
20	TF	TZ408	N	FAF			096.031		096.031	TT			5.000	NM	@	4000.00 FT [ALT]				1.000 NM				R		09	091.031
30	TF	RW09	Y	MAPT			096.112		096.112	TT			10.006	NM	@	816.00 FT [ALT]			-3.000	0.300 NM				R		09	091.112
10	TF	TZ440	N				096.274		096.274	TT			13.000	NM				210.00 KT		1.000 NM			Z	MATQU		091.274	
20	TF	TZ441	N				006.486		006.486	TT			7.500	NM						1.000 NM				Z	MATQU		001.486
30	TF	TZ416	N				275.923		275.923	TT			17.860	NM						1.000 NM				Z	MATQU		270.923
40	TF	BIBWA	N				288.793		288.793	TT			10.232	NM						1.000 NM				Z	MATQU		283.793
50	TF	MATQU	Y				186.041		186.041	TT			6.000	NM	+	4700.00 FT [ALT]		230.00 KT		1.000 NM				Z	MATQU		181.041
60	HM	MATQU	Y		L		120.000		120.000	TT	60.000	S			B	10000.00 FT [ALT]	4700.00 FT [ALT]	210.00 KT		NA				Z	MATQU		115.000

### Input data

Operation Type	0
SBAS Provider	1 (EGNOS)
Airport Identifier	LQTZ
Runway	09
Runway Letter	0 (None)
Approach Performance Designator	0
Route Indicator	
Reference Path Data Selector	0
Reference Path Identifier	E09A
LTP/FTP Latitude	442735.5500N
LTP/FTP Longitude	0184233.3500E
LTP/FTP Ellipsoidal Height (metres)	278.2
FPAP Latitude	442726.7200N
Delta FPAP Latitude (seconds)	-8.8300
FPAP Longitude	0184425.2900E
Delta FPAP Longitude (seconds)	111.9400
Threshold Crossing Height	51.0
TCH Units Selector	0 (feet)
Glidepath Angle (degrees)	3.00
Course Width (metres)	105.00
Length Offset (metres)	0
HAL (metres)	40.0
VAL (metres)	35.0

### Output data

Data Block	10 1A 14 11 0C 09 00 00 01 39 30 05 FC 81 14 13 0C 76 07 08 DE 1E 04 BB FF 88 6A 03 FE 01 2C 01 64 00 C8 AF 6E 2F C6 03
Calculated CRC Value	6E2FC603

### Required Additional Data

ICAO Code	LQ
LTP/FTP Orthometric Height (metres)	233.1

ADHP ICAO Identifier	W/P ID	W/P ICAO Code	W/P Type	Latitude	Longitude
LQTZ	BADIB		ICAO	44°37'50.3370"N	018°41'19.4590"E
LQTZ	BIBWA		ICAO	44°35'10.0400"N	018°22'36.1240"E
LQTZ	BOSNA		ICAO	44°22'14.0000"N	017°45'35.0000"E
LQTZ	DER		ICAO	44°59'02.8600"N	017°58'10.0600"E
LQTZ	EDHUG		ICAO	44°41'27.2760"N	018°44'00.0270"E
LQTZ	IMEFE		ICAO	44°21'11.0280"N	018°59'45.6390"E
LQTZ	KEB		ICAO	43°56'01.9100"N	018°26'59.3800"E
LQTZ	MATQU		ICAO	44°29'12.0440"N	018°21'43.1980"E
LQTZ	NOMQI		ICAO	44°23'14.0360"N	018°20'50.4520"E
LQTZ	RW09		ADHP	44°27'35.5500"N	018°42'33.3500"E
LQTZ	RW27		ADHP	44°27'26.7200"N	018°44'25.2900"E
LQTZ	SANWI		ICAO	44°50'59.2960"N	018°19'19.2830"E
LQTZ	SOMUN		ICAO	44°35'47.0000"N	019°06'18.0000"E
LQTZ	TZ408		ADHP	44°28'40.3140"N	018°28'39.8850"E
LQTZ	TZ414		ADHP	44°53'00.6510"N	018°37'43.2310"E
LQTZ	TZ416		ADHP	44°35'23.8690"N	018°36'54.9910"E
LQTZ	TZ424		ADHP	44°13'47.9710"N	018°22'59.0590"E
LQTZ	TZ426		ADHP	44°15'19.7580"N	018°43'21.5880"E
LQTZ	TZ428		ADHP	44°11'46.7050"N	018°57'06.1220"E
LQTZ	TZ430		ADHP	44°25'53.6810"N	018°04'25.9050"E
LQTZ	TZ440		ADHP	44°26'08.8830"N	019°00'35.4670"E
LQTZ	TZ441		ADHP	44°33'35.9940"N	019°01'46.5670"E
LQTZ	TZ510		ADHP	44°27'00.2660"N	018°49'58.3150"E
LQTZ	TZ522		ADHP	44°49'26.1280"N	018°43'50.9810"E
LQTZ	TZ530		ADHP	44°18'01.1970"N	018°56'07.1300"E
LQTZ	TZ532		ADHP	44°09'21.2100"N	018°44'34.4900"E
LQTZ	TZ540		ADHP	44°22'30.7530"N	018°39'12.2000"E
LQTZ	TZ544		ADHP	44°20'28.3550"N	018°05'57.1960"E
LQTZ	TZ550		ADHP	44°35'30.1850"N	018°44'10.0650"E
LQTZ	TZ560		ADHP	44°17'58.3590"N	019°02'03.6470"E
LQTZ	TZ606		ADHP	44°28'05.8950"N	018°36'05.5960"E
LQTZ	TZ608		ADHP	44°26'41.4250"N	018°53'53.4050"E
LQTZ	TZ610		ADHP	44°26'09.0950"N	019°00'32.8530"E
LQTZ	TZ612		ADHP	44°31'07.1680"N	019°01'20.1950"E
LQTZ	TZ614		ADHP	44°35'44.5370"N	018°59'12.9040"E
LQTZ	TZ616		ADHP	44°43'49.3190"N	018°41'57.0410"E
LQTZ	TZ618		ADHP	44°43'22.1690"N	018°50'20.5580"E
LQTZ	TZ620		ADHP	44°50'09.8570"N	018°42'37.0220"E
LQTZ	TZ622		ADHP	44°46'00.8940"N	018°24'48.9350"E
LQTZ	TZ624		ADHP	44°54'31.6020"N	018°07'27.5120"E
LQTZ	TZ626		ADHP	44°15'52.7130"N	019°04'17.3930"E
LQTZ	TZ628		ADHP	44°17'11.5510"N	018°54'30.9230"E
LQTZ	TZ630		ADHP	44°10'16.3490"N	018°45'27.7020"E
LQTZ	TZ632		ADHP	44°21'31.6070"N	018°44'07.3930"E
LQTZ	TZ634		ADHP	44°21'47.9340"N	018°26'00.3810"E
LQTZ	TZ700		ADHP	44°28'08.1250"N	018°35'36.9170"E
LQTZ	TZ702		ADHP	44°35'50.0380"N	018°24'33.8330"E
LQTZ	TZ704		ADHP	44°40'25.6270"N	018°19'22.6880"E
LQTZ	TZ706		ADHP	44°48'02.8400"N	018°10'44.0720"E
LQTZ	TZ708		ADHP	44°55'59.0870"N	018°32'36.6360"E
LQTZ	TZ710		ADHP	44°26'49.3100"N	018°23'28.7870"E
LQTZ	TZ712		ADHP	44°23'43.5260"N	017°57'42.4440"E
LQTZ	TZ714		ADHP	44°07'15.2410"N	018°29'52.1610"E
LQTZ	TZ716		ADHP	44°15'19.7580"N	018°43'21.5880"E
LQTZ	TZ718		ADHP	44°11'56.8880"N	018°56'26.8960"E
LQTZ	TZ720		ADHP	44°31'34.2470"N	018°55'06.7890"E
LQTZ	TZU		ICAO	44°27'24.3300"N	018°44'07.5300"E
LQTZ	VEBAR		ICAO	44°08'12.0000"N	019°10'49.0000"E
LQTZ	VIBOP		ICAO	44°59'57.0000"N	018°43'39.0000"E
LQTZ	WIXFI		ICAO	44°45'59.1330"N	018°08'31.9570"E
LQTZ	YULHU		ICAO	44°18'04.1600"N	018°32'39.7700"E