# BOSNIA AND HERZEGOVINA

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**AIRAC AIP SUP 004/2024**

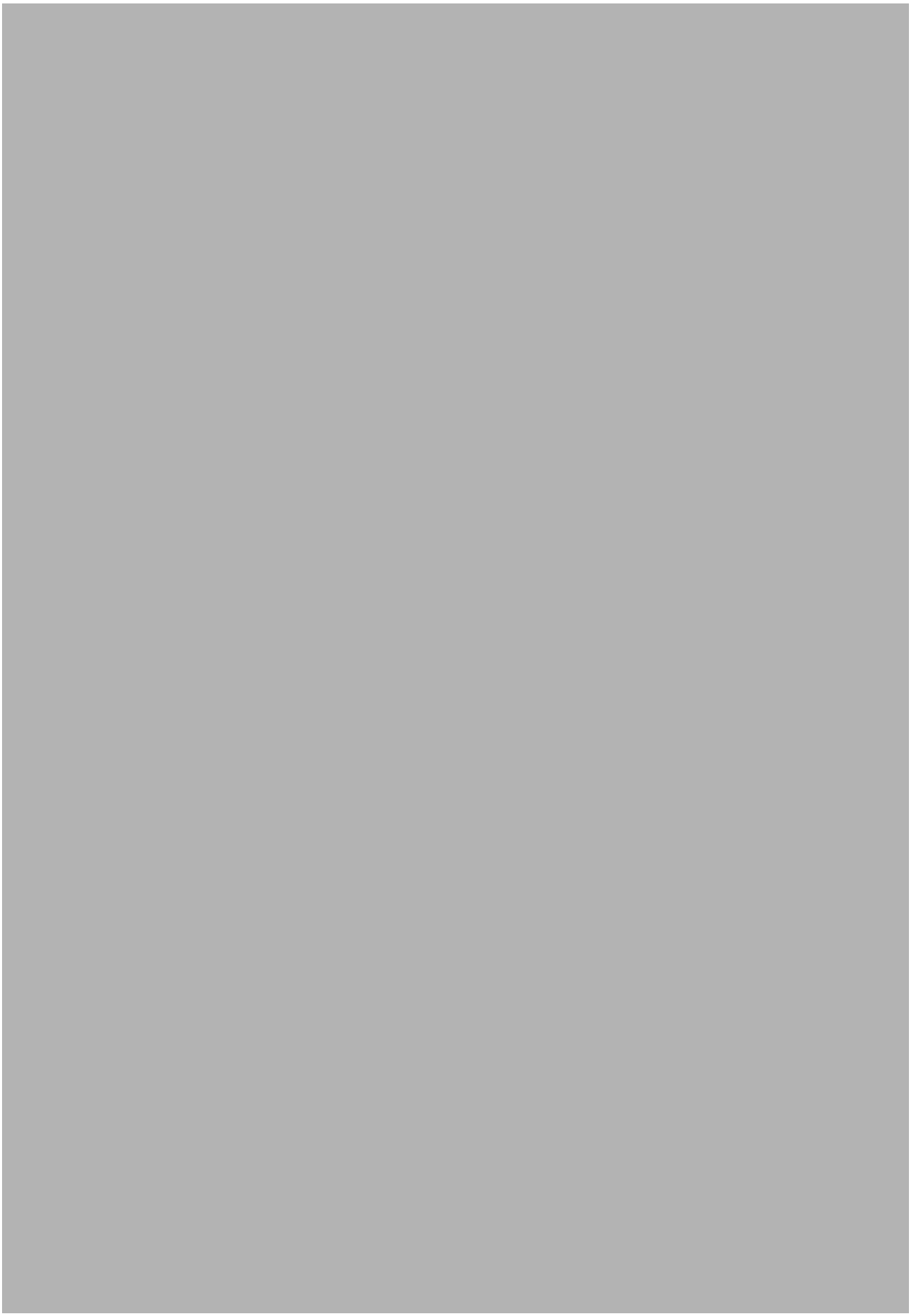
**Effective Date: 16-MAY-2024**
**Publication Date: 04-APR-2024**
**End Date: UFN**

## 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 primary published for flight validation and flyability check purpose with the aim of collecting and developing safety argumentation for PBN implementation in Bosnia and Herzegovina.



## 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 | |
| 20 | TF | TZ430 | N | | | | | | | 074.730 | TT | | | 14.000 | NM | + | 7200.00 FT [ALT] | | | | 1.000 NM | | | | 5 | RW09 | 09 | 069.730 |
| 30 | TF | MATQU | 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 | |
| 20 | TF | WIXFI | N | | | | | | | 150.506 | TT | | | 14.999 | NM | | | | 250.00 KT | | 1.000 NM | | | | 5 | RW09 | 09 | 145.506 |
| 30 | TF | MATQU | 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 | |
| 20 | TF | TZ424 | N | | | | | | | 350.793 | TT | | | 18.000 | NM | + | 7200.00 FT [ALT] | | | | 1.000 NM | | | | 5 | RW09 | 09 | 345.793 |
| 30 | TF | NOMQI | 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] | | 250.00 KT | | 1.000 NM | | | | 5 | RW09 | 09 | |
| 20 | TF | TZ416 | N | | | | | | | 269.120 | TT | | | 21.000 | NM | | | | | | 1.000 NM | | | | 5 | RW09 | 09 | 264.120 |
| 30 | TF | BIBWA | N | | | | | | | 268.793 | TT | | | 10.232 | NM | + | 4700.00 FT [ALT] | | 230.00 KT | | 1.000 NM | | | | 5 | RW09 | 09 | 263.793 |

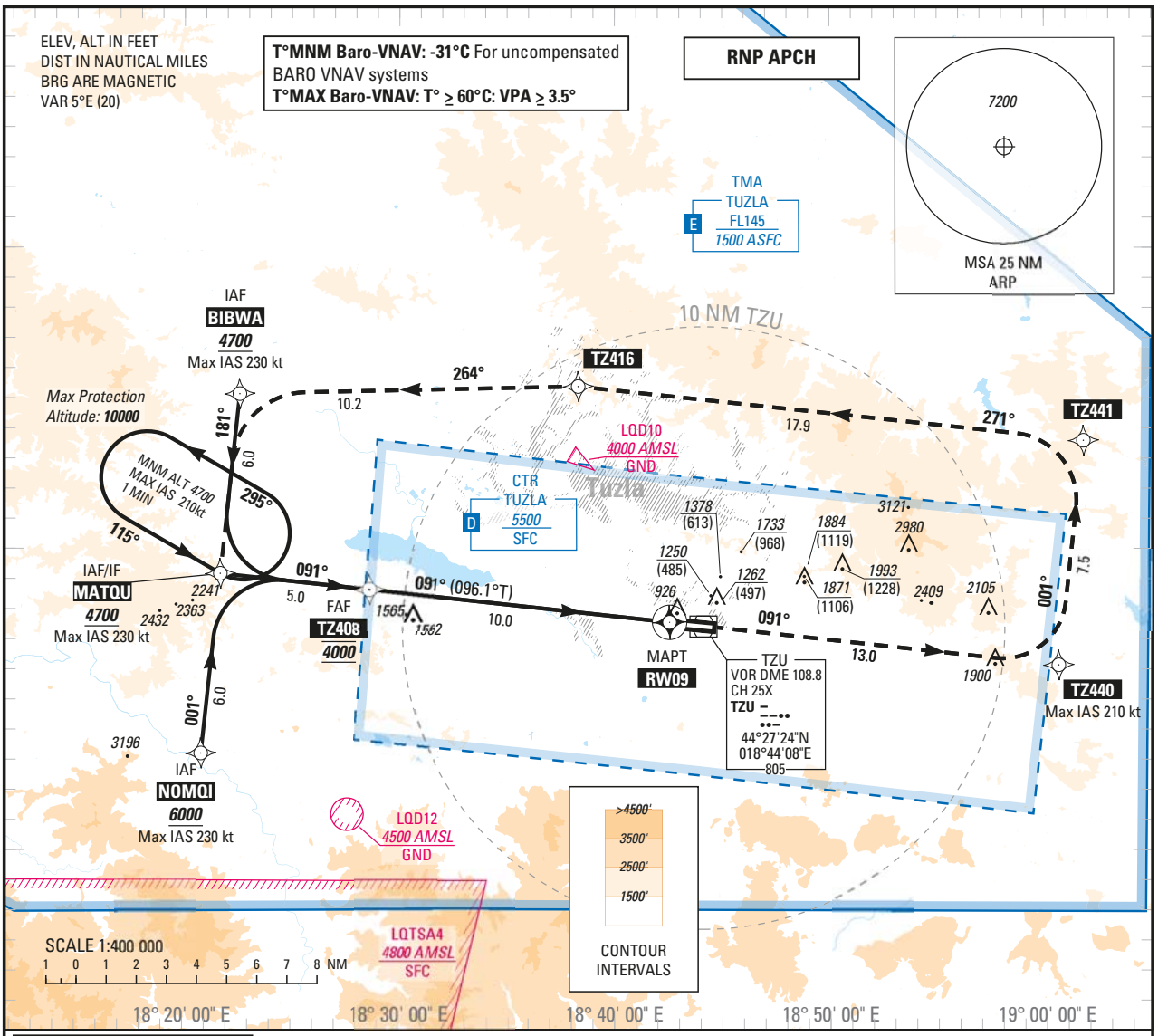
## STAR VEBAR 1P

| 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 | |
| 20 | TF | TZ428 | N | | | | | | | 290.004 | TT | | | 10.500 | NM | | | | | | 1.000 NM | | | | 5 | RW09 | 09 | 285.004 |
| 30 | TF | TZ426 | N | | | | | | | 289.845 | TT | | | 10.500 | NM | | | | | | 1.000 NM | | | | 5 | RW09 | 09 | 284.845 |
| 40 | TF | YULHU | N | | | | | | | 289.685 | TT | | | 8.159 | NM | | | | | | 1.000 NM | | | | 5 | RW09 | 09 | 284.685 |
| 50 | TF | NOMQI | N | | | | | | | 301.401 | TT | | | 9.932 | NM | + | 6000.00 FT [ALT] | | 230.00 KT | | 1.000 NM | | | | 5 | RW09 | 09 | 296.401 |

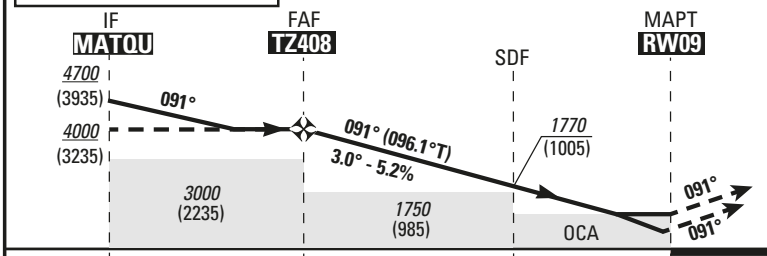
## STAR VIBOP 1P

| 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 | | | | | | | | | | | | | | | | | 250.00 KT | | 1.000 NM | | | | 5 | RW09 | 09 | |
| 20 | TF | TZ414 | N | | | | | | | 211.288 | TT | | | 8.118 | NM | + | 10000.00 FT [ALT] | | | | 1.000 NM | | | | 5 | RW09 | 09 | 206.288 |
| 30 | TF | BIBWA | N | | | | | | | 211.218 | TT | | | 20.846 | 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*

| | 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% | |
| CAT | *OCA* (H) | *OCA* (H) | *OCA* (H) | *OCA* (H) | *OCA* (H) | *OCA* (H) | *OCA* (H) | *OCA* (H) |
| A | ***970*** (200) | ***1190*** (430) | ***1100*** (340) | ***1040*** (270) | ***1350*** (590) | ***1240*** (480) | ***1190*** (430) | ***1680*** (910) |
| B | ***970*** (200) | ***1200*** (440) | ***1110*** (350) | ***1050*** (290) | ***1370*** (610) | ***1270*** (510) | ***1230*** (470) | ***2030*** (1270) |
| C | ***980*** (210) | ***1220*** (460) | ***1130*** (370) | ***1070*** (310) | ***1400*** (630) | ***1300*** (540) | ***1270*** (510) | ***2280*** (1520) |
| D | ***990*** (220) | ***1250*** (480) | ***1160*** (400) | ***1110*** (340) | ***1420*** (650) | ***1330*** (560) | ***1300*** (540) | ***2390*** (1630) |

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

**DIST RW09**

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

| 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 |

## 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(°) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LQTZ | 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 | | | | A | BIBWA | | |
| 20 | TF | MATQU | N | | | | | | | 186.041 | TT | | | 6.000 | NM | | | | | | 1.000 NM | | | | A | BIBWA | | 181.041 |
| 10 | IF | NOMQI | | IAF | | | | | | | | | | | | + | 6000.00 FT [ALT] | | 230.00 KT | | 1.000 NM | | | | A | NOMQI | | |
| 20 | TF | MATQU | N | | | | | | | 006.021 | TT | | | 6.000 | NM | | | | | | 1.000 NM | | | | A | NOMQI | | 001.021 |
| 10 | IF | MATQU | | IF | | | | | | | | | | | | + | 4700.00 FT [ALT] | | 230.00 KT | | 1.000 NM | | | | R | | 09 | |
| 20 | TF | TZ408 | N | FAF | | | | | | 096.031 | TT | | | 5.000 | NM | @ | 4000.00 FT [ALT] | | | | 1.000 NM | | | | R | | 09 | 091.031 |
| 30 | TF | RW09 | Y | MAPT | | | | | | 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 | TT | | | 13.000 | NM | | | | 210.00 KT | | 1.000 NM | | | | Z | MATQU | | 091.274 |
| 20 | TF | TZ441 | N | | | | | | | 006.486 | TT | | | 7.500 | NM | | | | | | 1.000 NM | | | | Z | MATQU | | 001.486 |
| 30 | TF | TZ416 | N | | | | | | | 275.923 | TT | | | 17.860 | NM | | | | | | 1.000 NM | | | | Z | MATQU | | 270.923 |
| 40 | TF | BIBWA | N | | | | | | | 268.793 | TT | | | 10.232 | NM | | | | | | 1.000 NM | | | | Z | MATQU | | 263.793 |
| 50 | TF | MATQU | Y | | | | | | | 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 | 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<br>30 05 FC 81 14 13 0C 76 07 08<br>DE 1E 04 BB FF 88 6A 03 FE 01<br>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 |

*EUROCONTROL FAS DB tool Version 3.2.1*

| 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 |

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