ZPPP AD 2.1 机场地名代码和名称 Aerodrome location indicator(ICAO / IATA) and name

ZPPP/KMG-昆明/长水 KUNMING/Changshui

ZPPP AD 2.2 机场地理位置和管理资料 Aerodrome geographical and administrative data

1	机场基准点坐标及其在机场的位置 ARP coordinates and site at AD	N25°06.3′ E102°56.5′ On RCL of RWY04/22, 2000m inside THR04
2	机场基准点与城市的位置关系 Direction and distance from city	073° GEO, 23.9km from the city center(Dongfeng square)
3	机场标高、基准温度、低温均值 ELEV/Reference temperature/Mean low temperature	2103.5 m/25.5℃(MAY)/2.2℃(JAN)
4	机场标高位置的大地水准面波幅 Geoid undulation at AD ELEV PSN	
5	磁差（测量年份）及年变率 VAR(Year)/Annual change	1°48′W(2022)/0.0′
6	机场管理部门、地址、电话、传真、AFS 地址、电子邮箱、网址 AD administration/Address/Telephone/Telefax/ AFS/ E-mail/Website	Kunming Changshui International Airport CO.LTD Kunming Changshui International Airport, GuanDu district, Kunming city, Yunnan province, China Post code:650211 TEL:86-871-67091111 FAX:86-871-67092222 Website:www.ynairport.com
7	允许飞行种类 Types of traffic permitted(IFR/VFR)	IFR-VFR
8	机场性质/飞行区指标 Military or civil airport/Reference code	CIVIL/RWY04/22: 4F; RWY03/21: 4E
9	备注 Remarks	Nil

ZPPP AD 2.3 工作时间 Operational hours

1	机场开放时间 AD Operational hours	H24
2	海关和移民 Customs and immigration	H24
3	卫生健康部门 Health and sanitation	HS or O/R
4	航空情报服务讲解室 AIS Briefing Office	H24
5	空中交通服务报告室 ATS Reporting Office	H24

6	气象服务讲解室 MET Briefing Office	H24
7	空中交通服务 Air Traffic Service	H24
8	加油服务 Fuelling	H24
9	地勤服务 Handling	H24
10	安保服务 Security	H24
11	除冰服务 De-icing	HO
12	备注 Remarks	Nil

ZPPP AD 2.4 地勤服务和设施 Handling services and facilities

1	货物装卸设施 Cargo-handling facilities	Lift platform vehicle, conveyor vehicle, fork, container carrier, cargo carrier, cargo tow-tractor
2	燃油牌号 Fuel types	Jet Fuel No.3
3	滑油牌号 Oil types	(lubricating oil.254. И2197.2389)
4	加油设施/能力 Fuelling facilities & Capacity	Fueling vehicle, hydrant dispenser, multi-function vehicle, cleaning tanker. Fueling capacity: 278 L/s Apron pipeline gas well: bolt, high exhaust, low drainage.
5	除冰设施 De-icing facilities	De-icing fluid (FCY-1A/FCY-2, NW-056A, KHF-1A) De-icers, de-icing apron, snow fluid truck
6	过站航空器机库 Hangar space for visiting aircraft	Nil
7	过站航空器的维修设施 Repair facilities for visiting aircraft	Line maintenance available for various types of aircraft on request, spare parts and other maintenance service are available with pre-arrangement.
8	备注 Remarks	Tractor, ground air supply unit, power unit

ZPPP AD 2.5 旅客设施 Passenger facilities

1	宾馆 Hotels	At AD and near AD
2	餐饮 Restaurants	At AD
3	交通工具 Transportation	Passenger's coaches, buses, taxis, subways

4	医疗设施 Medical facilities	First aid at AD, hospital near AD
5	银行和邮局 Bank and Post Office	At AD
6	旅行社 Tourist Office	At AD
7	备注 Remarks	Nil

ZPPP AD 2.6 援救与消防服务 Rescue and fire fighting services

1	机场消防等级 AD category for fire fighting	CAT 9
2	援救设备 Rescue equipment	Fire fighting facilities: primary foam tender, heavy-duty water tank, rapid intervention vehicle, heavy foam tender, dry-chemical tender, fire fighting command car, illumination truck, medicament supply truck, rescue tender, logistics truck; Rescue equipments: rescue cushion, rescue rod (hydraulic), manual hydraulic expander, electric hydraulic expander, cutter, chain saw, smoke ventilator, combustible gas detector.
3	搬移受损航空器的能力 Capability for removal of disabled aircraft	MTWA up to B747-400 Mobile surface, trailer, uplift air cushion, fork truck, rack
4	备注 Remarks	Tel of remove disabled aircraft: 86-871-67091888, Fax: 86-871-67091864

ZPPP AD 2.7 可用季节- 扫雪 Seasonal availability-clearing

1	可用季节及扫雪设备类型 Seasonal availability/Types of clearing equipment	All seasons Multi-functional snow ploughs, snow pusher, snow scraper, water cart, sweeper
2	扫雪顺序 Clearance priorities	RWY03/21→TWY E, F and the TWYs connected with them→TWY R, Q→RWY04/22→TWY C, D and the TWYs connected with them. Apron cleared at the same time.
3	备注 Remarks	Nil

ZPPP AD 2.8 停机坪、滑行道及校正位置数据 Aprons, taxiways and check locations data

1	停机坪道面和强度 Apron surface and strength	道面 Surface	CONC
		强度 Strength	PCR 1250/R/A/W/T : Stands Nr. 105-107, 129, 134, 135, 140, 163, 164, 312, 313, 322, 323, L4, L5, 518, 521, 521L, 521R, 522, 522L, 522R, 527, 527L, 527R, S102-S104, S130-S133, L816, 705, 708, 708L, 708R, 709, 720-723, 722A, 722B PCR 1050/R/A/W/T : Stands Nr. 101, 103, 104, 108-110, 112-116, 126, 128,

			130-133, 136-139, 141, 142, 153-162, 165-167, 314, 318, 330 PCR 910/R/A/W/T : Stands Nr. 102, 111, 117-125, 127, 143-152, 168, 311, 315-317, 321, 324-329, 501-508, 511-517, 531-536, 539-554, 591-593, 701-704, 706, 707, 710-719, 724, S101, S105-S129, S134-S138, S202-S219, 801-815
2	滑行道宽度、道面和强度 Taxiway width, surface and strength	宽度 Width	50m : C2(BTN C & D), C9(BTN C & D), D3(BTN C & D), D4(BTN C & D), D6(BTN C & D), D7-D9, J(BTN C & D), Q(BTN C & D), R(BTN C & D), S(BTN C & D), U(BTN C & D) 49.5m : L(BTN C & D), P(BTN C & D) 49m : N(BTN C & D) 48m : C2(W of D), D3(W of D), E1(BTN E & F), E3(BTN E & F), E4(BTN E & F), E5, E6, F9(BTN E & F), H1-H4(BTN R & Q), J(W of D), Q(BTN E & F), R(BTN E & F), S(BTN E & F), W 47.5m : L(BTN E & F), N(BTN E & F) 47m : C1(BTN C & D), F2(BTN E & F), P(BTN E & F) 46.5m : K(BTN E & F) 44m : C2(E of C), C9(E of C), J(E of C), N(BTN D& H1) 43.5m : P(BTN D & H1) 39m : F2(W of F), F9(W of F), K(BTN H4 & E), L(BTN H4 & E), Q(BTN D & H1, BTN H4 & E) 37.5m : C10(BTN C & D) 36m : R(BTN D & H1) 35.5m : F1(BTN E & F), F10(BTN E & F) 35m : E4(E of E), R(BTN H4 & E), S(BTN D & H1), U(BTN D & H1) 34.5m : C1(E of C), C10(E of C) 33.5m : S(BTN E & H4) 31.5m : H1(S of R) 31m : E1(BTN H4 & E), F1(W of F), F2(E of E), F10(W of F), N(BTN H4 & E), P(BTN H4 & E) 30m : D4(W of D), H1(BTN Q & P) 29.5m : E3(E of E) 28.5m : S(BTN H2 & H3) 28m : D6(BTN D & H1), P(BTN H1 & H2) 27.5m : H4(S of R) 25m : C, C3, C4, C7, C8, D, H2(BTN Q & P), L(BTN D & H1), P(BTN H2 & H3), S(BTN H1 & H2, BTN H3 & H4) 24.5m : H4(BTN Q & P) 23m : C5, C6, E, F, F3-F8, H1(N of P), H2(BTN R & S), H3(BTN R & S, BTN Q & P), H4(N of P), M, N(BTN H1 & H4), P(BTN H3 & H4), Q(BTN H1 & H4), R(BTN H1 & H4)
		道面 Surface	CONC

		强度 Strength	PCR 1060/R/A/W/T : F9 PCR 1030/R/A/W/T : F, F1, F10 PCR 1020/R/A/W/T : C1, C10, E(S of Q), E3-E6, W PCR 1000/R/A/W/T : C2, C9, D(N of D4,S of Q), J PCR 990/R/A/W/T : C, F2 PCR 980/R/A/W/T : Q, R PCR 940/R/A/W/T : S PCR 930/R/A/W/T : H1(S of Q) PCR 920/R/A/W/T : D(BTN Q & D4), D3, D4, D6-D9, E(N of Q), E1, H2, K, L, U PCR 910/R/A/W/T : H1(N of Q), H3, H4(S of K) PCR 900/R/A/W/T : P PCR 810/R/A/W/T : F3-F8 PCR 770/R/A/W/T : M, N PCR 760/R/A/W/T : C3-C8 PCR 660/R/A/W/T : H4(N of K)
3	高度表校正点的位置及其标高 ACL location and elevation	Nil	
4	VOR 校正点 VOR checkpoints	Nil	
5	INS 校正点 INS checkpoints	Nil	
6	备注 Remarks	Widths of TWY shoulder: 17.5m: C, C1-C10, D, D3, D4, D6(E of D), D7-D9, H1(N of S), H2(N of Q), J, L(E of H1), M(BTN H1&D), N(BTN H1& C), P(E of H3), Q(E of H1), R(E of H1), S(E of H2, W of H3), U(E of D) 10.5m: D6(W of D), E, E1, E3-E6, F, F1-F10, H1(S of S), H2(S of Q), H3, H4, K, L(W of H4), M(BTN H4&E), N(BTN H4& F), P(W of H3), Q(W of H1), R(W of H1), S(BTN H2 & H3),U(W of D), W	

ZPPP AD 2.9 地面活动引导和管制系统与标识
Surface movement guidance and control system and markings

1	航空器机位号码标记牌、滑行道引导线、航空器目视停靠引导系统的使用 Use of aircraft stand ID signs, TWY guide lines and visual docking / parking guidance system of aircraft stands	Aircraft stand identification sign boards at stands Nr. 101-168, 311-318, 321-330, 501-508, 511-516, 521, 521L, 521R, 522, 522L, 522R, 527, 527L, 527R, 531-536, 539-554, 592, 593, 701, 702, 710-722, 722A, 722B, 723, 724, 801, 808-815, L4, L5, S101-S104, S106-S126, S128-S138, S202-S219. Guide lines at all TWYs. Visual docking guidance system at aircraft stands Nr. 101-168, Marshalling assistance for other aircraft stands.

2	跑道和滑行道标志及灯光 RWY and TWY marking and LGT	跑道标志 RWY markings	THR, RWY designation, edge line, RWY center line, TDZ, aiming point
		跑道灯光 RWY lights	RTHL, WBAR, REDL, RCLL, RTZL(03, 22), RENL
		滑行道标志 TWY markings	Edge line, center line, TWY shoulder marking, mandatory instruction marking, information signs, RWY holding position, intermediate holding position
		滑行道灯光 TWY lights	Edge line retroreflective markers, edge line lights, center line lights, No-entry bar , intermediate holding position lights
3	停止排灯和跑道警戒灯 Stop bars and runway guard lights	Stop bar lights: at F9 & F10 for RWY03, at F1 & F2 for RWY21, C9 & C10 for RWY04, at C1 & C2 & J for RWY22 Runway guard lights	
4	其它跑道保护措施 Other runway protection measures	Nil	
5	备注 Remarks	Taxiing guide lines at all intersections of TWY and RWY. Service vehicle lane edge line for crossing TWY, service vehicle lane line, service vehicle orientation arrow, give-way line.	

ZPPP AD 2.10 机场障碍物 Aerodrome obstacles

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志，灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
1	2	3	4	5	6
MT 001	MT	006/4774	2130.6		RWY03 Take-off flight path
MT 002	MT	009/4642	2122.8		RWY03 Take-off flight path
MT 003	MT	064/14838	2257.0		
MT 004	MT	070/14130	2418.0		RWY04 RNAV departure
MT 005	MT	071/13308	2427.0		
TRANSMISSION_LINE 006	TRANSMISSION_LINE	074/12425	2364.4	WHITE/LIM/STROBE	

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TRANSMISSION_LINE 007	TRANSMISSION_LINE	074/12595	2400.7	WHITE/LIM/STROBE	
TRANSMISSION_LINE 008	TRANSMISSION_LINE	074/12771	2443.6	WHITE/LIM/STROBE	
TRANSMISSION_LINE 009	TRANSMISSION_LINE	074/13103	2431.9	WHITE/LIM/STROBE	
TRANSMISSION_LINE 010	TRANSMISSION_LINE	075/11711	2347.5	WHITE/LIM/STROBE	
TRANSMISSION_LINE 011	TRANSMISSION_LINE	075/12086	2333.5	WHITE/LIM/STROBE	
TRANSMISSION_LINE 012	TRANSMISSION_LINE	075/12308	2378.2	WHITE/LIM/STROBE	
TRANSMISSION_LINE 013	TRANSMISSION_LINE	075/13336	2514.6	WHITE/LIM/STROBE	
NATURAL_HIGHPOINT 014	NATURAL_HIGHPOINT	075/13384	2480.0		RWY04 conventional departure
MT 015	MT	076/7171	2231.0		
TRANSMISSION_LINE 016	TRANSMISSION_LINE	076/11102	2343.4	WHITE/LIM/STROBE	
TRANSMISSION_LINE 017	TRANSMISSION_LINE	076/11394	2336.1	WHITE/LIM/STROBE	

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

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TRANSMISSION_LINE 018	TRANSMISSION_LINE	077/10649	2361.3	WHITE/LIM/STROBE	
MT 019	MT	077/13108	2569.0		
TRANSMISSION_LINE 020	TRANSMISSION_LINE	078/10417	2360.6	WHITE/LIM/STROBE	
MT 021	MT	079/6516	2226.0		
TRANSMISSION_LINE 022	TRANSMISSION_LINE	079/9904	2368.8	WHITE/LIM/STROBE	
TRANSMISSION_LINE 023	TRANSMISSION_LINE	080/7076	2261.0	WHITE/LIM/STROBE	
TRANSMISSION_LINE 024	TRANSMISSION_LINE	080/8193	2321.4	WHITE/LIM/STROBE	
TRANSMISSION_LINE 025	TRANSMISSION_LINE	080/8665	2314.5	WHITE/LIM/STROBE	
TRANSMISSION_LINE 026	TRANSMISSION_LINE	080/8864	2340.3	WHITE/LIH/STROBE	
TRANSMISSION_LINE 027	TRANSMISSION_LINE	080/9055	2329.8	WHITE/LIM/STROBE	
TRANSMISSION_LINE 028	TRANSMISSION_LINE	080/9759	2338.4	WHITE/LIM/STROBE	
MT 029	MT	081/12993	2520.0		

半径 15 千米内主要障碍物 (相对机场 ARP)
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TRANSMISSION_LINE 030	TRANSMISSION_LINE	082/6861	2279.4	WHITE/LIM/STROBE	
MT 031	MT	082/8883	2300.0		
TRANSMISSION_LINE 032	TRANSMISSION_LINE	083/8860	2363.8	WHITE/LIM/STROBE	
Iron TWR 033	Iron TWR	084/4681	2207.0		
Iron TWR 034	Iron TWR	084/5120	2201.0		
TRANSMISSION_LINE 035	TRANSMISSION_LINE	085/6870	2313.7	WHITE/LIM/STROBE	
TRANSMISSION_LINE 036	TRANSMISSION_LINE	086/6885	2344.2	WHITE/LIM/STROBE	
TRANSMISSION_LINE 037	TRANSMISSION_LINE	086/8537	2323.6	WHITE/LIM/STROBE	
MT 038	MT	086/13740	2480.0		
Iron TWR 039	Iron TWR	087/4229	2221.0		
TRANSMISSION_LINE 040	TRANSMISSION_LINE	090/8678	2328.1	WHITE/LIM/STROBE	
TRANSMISSION_LINE 041	TRANSMISSION_LINE	090/9147	2439.8	WHITE/LIM/STROBE	

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

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MT 042	MT	090/10086	2440.0		
TRANSMISSION _LINE 043	TRANSM ISSION_L INE	091/10004	2518.5	WHITE/LIM/STR OBE	
TRANSMISSION _LINE 044	TRANSM ISSION_L INE	092/7737	2348.1	WHITE/LIM/STR OBE	
TOWER 045	TOWER	095/2364	2176.0		
MT 046	MT	095/6452	2440.8		
Iron TWR 047	Iron TWR	096/4022	2240.0		
MT 048	MT	098/4003	2251.9		
TRANSMISSION _LINE 049	TRANSM ISSION_L INE	098/9085	2402.2	WHITE/LIM/STR OBE	
MT 050	MT	098/9665	2520.0		
Iron TWR 051	Iron TWR	101/3567	2241.0		
TRANSMISSION _LINE 052	TRANSM ISSION_L INE	104/9082	2544.1	WHITE/LIM/STR OBE	
MT 053	MT	105/7314	2400.0		
MT 054	MT	106/9425	2520.0		

半径 15 千米内主要障碍物 (相对机场 ARP)
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TRANSMISSION_LINE 055	TRANSMISSION_LINE	108/9083	2562.1	WHITE/LIM/STROBE	
TRANSMISSION_LINE 056	TRANSMISSION_LINE	109/8631	2556	WHITE/LIM/STROBE	
Iron TWR 057	Iron TWR	110/3506	2250.0		
MT 058	MT	114/6311	2520.0		
TRANSMISSION_LINE 059	TRANSMISSION_LINE	115/9160	2522.9	WHITE/LIM/STROBE	
Iron TWR 060	Iron TWR	117/3188	2255.0		
MT 061	MT	117/6104	2581.3		
MT 062	MT	122/7373	2540.0		
MT 063	MT	126/6029	2560.0		
Iron TWR 064	Iron TWR	128/3092	2268.0		
MT 065	MT	128/6034	2580.0		
TRANSMISSION_LINE 066	TRANSMISSION_LINE	129/8642	2548.8	WHITE/LIM/STROBE	
MT 067	MT	131/6998	2648.0		

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志，灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
TRANSMISSION_LINE 068	TRANSMISSION_LINE	137/9464	2558.5	WHITE/LIM/STROBE	
MT 069	MT	137/10217	2680.0		
MT 070	MT	139/6863	2540.0		
MT 071	MT	139/10501	2730.1		
TRANSMISSION_LINE 072	TRANSMISSION_LINE	141/9983	2625.1	WHITE/LIM/STROBE	
MT 073	MT	142/5842	2460.0		
MT 074	MT	146/5967	2500.0		
MT 075	MT	146/11000	2640.0		
MT 076	MT	149/6324	2480.0		
TRANSMISSION_LINE 077	TRANSMISSION_LINE	150/10585	2572.2	WHITE/LIM/STROBE	
Iron TWR 078	Iron TWR	151/3490	2235.0		
MT 079	MT	152/3674	2174.6		
MT 080	MT	152/6617	2460.0		
Iron TWR 081	Iron TWR	156/3508	2235.6		

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Iron TWR 082	Iron TWR	158/4557	2225.0		
Iron TWR 083	Iron TWR	159/3664	2243.0		
Iron TWR 084	Iron TWR	159/3816	2254.0		
TRANSMISSION _LINE 085	TRANSM ISSION_L INE	160/11323	2400.1	WHITE/LIM/STR OBE	
MT 086	MT	162/13405	2440.0		
MT 087	MT	163/5389	2420.0		
Iron TWR 088	Iron TWR	164/3666	2214.0		
Iron TWR 089	Iron TWR	165/5148	2451.8		
MT 090	MT	166/7863	2460.0		
MT 091	MT	166/13704	2520.0		
Iron TWR 092	Iron TWR	167/4061	2203.0		
TRANSMISSION _LINE 093	TRANSM ISSION_L INE	168/12901	2278.9	WHITE/LIM/STR OBE	
TRANSMISSION _LINE 094	TRANSM ISSION_L INE	170/13894	2554.9	WHITE/LIM/STR OBE	
Iron TWR 095	Iron TWR	173/4389	2197.0		

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志，灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
MT 096	MT	174/5971	2334.0		
MT 097	MT	176/14084	2460.0		
Iron TWR 098	Iron TWR	179/4655	2175.0		
MT 099	MT	179/9461	2360.0		
MT 100	MT	180/6115	2240.0		
MT 101	MT	181/12256	2400.0		
Iron TWR 102	Iron TWR	184/4970	2134.0		
MT 103	MT	187/12743	2380.0		
MT 104	MT	193/13583	2340.0		
TRANSMISSION _LINE 105	TRANSM ISSION_L INE	195/11241	2267.7	WHITE/LIM/STR OBE	
TRANSMISSION _LINE 106	TRANSM ISSION_L INE	200/11550	2307.1	WHITE/LIM/STR OBE	
MT 107	MT	206/10678	2265.0		
MT 108	MT	208/8164	2147.0		
MT 109	MT	209/9332	2194.4		

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志，灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
TRANSMISSION_LINE 110	TRANSMISSION_LINE	241/10657	2154.8	WHITE/LIM/STROBE	
TRANSMISSION_LINE 111	TRANSMISSION_LINE	243/13258	2241.1	WHITE/LIM/STROBE	
MT 112	MT	243/13451	2215.5		
TRANSMISSION_LINE 113	TRANSMISSION_LINE	244/13635	2261.0	WHITE/LIM/STROBE	
MT 114	MT	264/10139	2300.0		
STACK 115	STACK	267/3944	2153.6	WHITE/LIM/STROBE	
MT 116	MT	269/9778	2280.0		
MT 117	MT	276/11859	2300.0		
MT 118	MT	286/14895	2300.0		
MT 119	MT	292/11879	2300.0		
Control TWR 120	Control TWR	294/1065	2208.2	RED/LIM/STROBE	
Iron TWR 121	Iron TWR	296/3597	2161.5		
MT 122	MT	301/5008	2280.0		
Radar 123	Radar	310/5345	2376.5	WHITE/LIM/STROBE	

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志，灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
MT 124	MT	311/4527	2260.0		
MT 125	MT	316/4876	2280.0		
MT 126	MT	319/4649	2240.0		
MT 127	MT	323/7827	2320.0		
MT 128	MT	325/6884	2280.0		
MT 129	MT	327/4547	2200.0		
MT 130	MT	328/6803	2276.0		
MT 131	MT	328/9007	2374.0		
MT 132	MT	339/8990	2300.0		
MT 133	MT	343/13334	2522.2		
MT 134	MT	344/8749	2280.0		
MT 135	MT	346/5528	2186.0		
TRANSMISSION _LINE 136	TRANSM ISSION_L INE	346/9273	2255.3	WHITE/LIM/STR OBE	
MT 137	MT	347/13241	2476.0		
TRANSMISSION _LINE 138	TRANSM ISSION_L INE	348/9390	2203.6	WHITE/LIM/STR OBE	

半径 15 千米内主要障碍物 (相对机场 ARP)
Obstacles within a circle with a radius of 15km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志，灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
TRANSMISSION_LINE 139	TRANSMISSION_LINE	349/9211	2176.6	WHITE/LIM/STROBE	
MT 140	MT	353/13878	2420.0		

半径 15 千米-50 千米内主要障碍物 (相对机场 ARP)
Obstacles between two circles with the radius of 15km and 50km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志、灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
MT 141	MT	001/30627	2670		
MT 142	MT	001/32749	2773		
MT 143	MT	002/114248	3960		MVA sector
MT 144	MT	004/46863	2801		
MT 145	MT	007/49254	2881		
MT 146	MT	011/58342	2997		MVA sector
MT 147	MT	012/28994	2328		
MT 148	MT	012/36912	2820		
MT 149	MT	017/40393	2740		

半径 15 千米-50 千米内主要障碍物 (相对机场 ARP)
Obstacles between two circles with the radius of 15km and 50km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志、灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
NATURAL_HIGHPOINT 150	NATURAL_HIGHPOINT	018/83187	3180		MVA sector
MT 151	MT	018/83501	3296		MVA sector RWY21/22 RNAV STAR
MT 152	MT	045/35617	2627		
MT 153	MT	064/16881	2344		
MT 154	MT	070/15106	2340		
MT 155	MT	085/16478	2400		
MT 156	MT	087/15452	2320		
MT 157	MT	091/16493	2480		
MT 158	MT	095/15143	2300		
MT 159	MT	096/87726	2687		MVA sector
MT 160	MT	100/16735	2420		
MT 161	MT	107/16302	2400		
MT 162	MT	115/16401	2300		
MT 163	MT	118/19686	2400		
MT 164	MT	120/19619	2400		

半径 15 千米-50 千米内主要障碍物 (相对机场 ARP)
Obstacles between two circles with the radius of 15km and 50km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志、灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
MT 165	MT	121/17333	2340		
MT 166	MT	182/38015	2741		
MT 167	MT	189/38001	2801		MVA sector
MT 168	MT	195/46857	2620		MVA sector
MT 169	MT	197/44856	2440		
MT 170	MT	235/40263	2421		MVA sector
MT 171	MT	240/75861	2618		MVA sector
MT 172	MT	242/35949	2501		
MT 173	MT	263/37239	2480		
MT 174	MT	264/42374	2501		
MT 175	MT	276/46851	2581		
MT 176	MT	280/47957	2600		
MT 177	MT	291/33475	2481		
MT 178	MT	295/34248	2581		
MT 179	MT	296/23989	2501		
MT 180	MT	302/22700	2521		

半径 15 千米-50 千米内主要障碍物 (相对机场 ARP)
Obstacles between two circles with the radius of 15km and 50km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志、灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
MT 181	MT	303/18823	2320		
MT 182	MT	305/23020	2581		
MT 183	MT	305/44641	2641		
MT 184	MT	309/44107	2660		
MT 185	MT	312/19192	2340		
MT 186	MT	312/28598	2440		
MT 187	MT	314/18440	2380		
MT 188	MT	319/19600	2340		
MT 189	MT	327/39184	2580		
MT 190	MT	330/40113	2640		
MT 191	MT	343/15222	2360		
MT 192	MT	346/38387	2501		
MT 193	MT	353/27939	2678		
MT 194	MT	354/30980	2780		
MT 195	MT	357/28815	2821		
MT 196	MT	359/116187	4345		MVA sector

半径 15 千米-50 千米内主要障碍物 (相对机场 ARP)
Obstacles between two circles with the radius of 15km and 50km (centered on the ARP)

障碍物名称或编号 Obstacle ID/ Designation	障碍物类型 Obstacle type	障碍物位置 磁方位(°)/距离(m) Obstacle position MAG BRG(degree)/DIST(m)	标高或(高) Elevation /(Height) (m)	障碍物标志、灯光类型及颜色 Obstacle marking /Lighting Type & Colour	影响的飞行程序及起飞航径区/备注 Flight procedure/take-off path area affected & Remarks
MT 197	MT	360/28918	2826		RWY03 conventional departure MVA sector

备注：No significant obstacles in the take-off flight path areas of RWY 04/21/22.

ZPPP AD 2.11 提供的气象情报、气象观测和报告
Meteorological information provided & meteorological observations and reports

提供的气象情报
Meteorological information provided

1	相关气象台的名称 Associated MET Office	Yunnan MET center Office of CAAC
2	气象服务时间、服务时间以外的责任气象台 Hours of service/MET Office outside hours	H24
3	负责编发 TAF 的气象台、有效时段、发布间隔 Office responsible for TAF preparation/Periods of validity/Interval of issuance	Yunnan MET center Office of CAAC;9h, 24h;3h, 6h
4	趋势预报及发布间隔 Trend forecast/Interval of issuance	trend 1h
5	所提供的讲解或咨询服务 Briefing/Consultation provided	Briefing provided: P, T
6	飞行文件及其使用语言 Flight documentation/Language(s) used	Chart, International MET Codes, Abbreviated Plain Language Text;Ch, En
7	讲解或咨询服务时可利用的图表和其它信息 Charts and other information available for briefing or consultation	Synoptic charts, significant weather charts, upper W/T Charts, satellite and radar material, AWOS real-time data
8	提供气象情报的辅助设备 Supplementary equipment available for providing information	Fax, MET Service Terminal
9	提供气象情报的空中交通服务单位 ATS units provided with information	ACC, APP, TWR
10	其他信息 Additional information	MET office TEL: 86-871-67110667

气象观测和报告

Meteorological observations and reports		
1	机场观测类型与频率、自动观测设备 Type & frequency of observation /Automatic observation equipment	Hourly plus special observation/Yes
2	气象报告类型及所包含的补充资料 Type of MET Report/Supplementary information included	METAR, SPECI
3	观测系统及安装位置 Observation system/Site(s)	RVR EQPT A: 115m W of RWY03/21 CL, 355m inward DTHR03; B: 115m W of RWY03/21 CL, 1460m inward DTHR03; C: 110m W of RWY03/21 CL, 332m inward DTHR21; D: 115m E of RWY04/22 CL, 350m inward THR04; E: 115m E of RWY04/22 CL, 2250m inward THR04; F: 115m E of RWY04/22 CL, 830m inward THR22. SFC wind sensors 03: 120m W of RWY03/21 CL, 340m inward DTHR03; 03/21 Center1: 120m W of RWY03/21 CL, 1460m inward DTHR03; 03/21 Center2: 120m W of RWY03/21 CL, 1730m inward DTHR03; 21 1: 120m W of RWY03/21 CL, 362m inward DTHR21; 21 2: 120m W of RWY03/21 CL, 352m inward DTHR21; 04: 120m E of RWY04/22 CL, 340m inward THR04; 04/22 Center: 120m E of RWY04/22 CL, 2250m inward THR04; 22: 120m E of RWY04/22 CL, 850m inward THR22. Ceilometer 03: 120m W of RWY03/21 CL, 330m inward DTHR03; 21: 120m W of RWY03/21 CL, 332m inward DTHR21; 04: 120m E of RWY04/22 CL, 320m inward of THR04; 22: 60m W of RWY04/22 CL, 310m outside THR22.
4	观测系统的工作时间 Hours of operation for meteorological observation system	H24
5	气候资料 Climatological information	Climatography AVBL
6	其他信息 Additional information	Nil

ZPPP AD 2.12 跑道物理特征 Runway physical characteristics

跑道号码 RWY Designator	真方位和 磁方位 TRUE & MAG BRG	跑道长宽 Dimensions of RWY(m)	跑道强度、跑道和停止道道面 RWY strength/ Surface of RWY /SWY	跑道入口坐标、跑道末端坐标、跑道入口大地水准面波幅 THR coordinates & RWY end coordinates & THR geoid undulation	跑道入口标高和精密进近跑道接地带最高标高 THR elevation & highest elevation of TDZ of precision APP RWY	跑道和停止道坡度 Slope of RWY/SWY
1	2	3	4	5	6	7
03	038.4° GEO 040° MAG	4000×45	(0-295m) PCR 1020/R/A/W/T CONC (295-3705m) PCR 1160/F/B/W/T ASPH (3705-4000m) PCR 1020/R/A/W/T CONC/-	Nil	THR 2100.5m DTHR 2102.6m TDZ 2103.5m	0.39%(540m)/0.32%(155m)/0.2%(130m)/0.09%(105m)/-0.03%(325m)/-0.28%(750m)/-0.16%(870m)/-0.15%(585m)/-0.15%(540m)
21	218.4° GEO 220° MAG	4000×45	(0-295m) PCR 1020/R/A/W/T CONC (295-3705m) PCR 1160/F/B/W/T ASPH (3705-4000m) PCR 1020/R/A/W/T CONC/-	Nil	THR 2098.3m DTHR 2099.1m TDZ 2099.7m	0.15%(540m)/0.15%(585m)/0.16%(870m)/0.28%(750m)/0.03%(325m)/-0.09%(105m)/-0.2%(130m)/-0.32%(155m)/-0.39%(540m)
04	038.4° GEO 040° MAG	4500×60	(0-295m) PCR 970/R/A/W/T CONC (295-3705m) PCR 1130/F/B/W/T ASPH (3705-4500m) PCR 970/R/A/W/T CONC/-	Nil	THR 2098.7m TDZ 2101.7m	0.4%(695m)/0.13%(160m)/-0.1%(700m)/-0.11%(90m)/-0.25%(355m)/-0.17%(2000m)/0%(115m)/-0.13%(385m)

跑道号码 RWY Designator	真方位和磁方位 TRUE & MAG BRG	跑道长宽 Dimensions of RWY(m)	跑道强度、跑道和停止道道面 RWY strength/ Surface of RWY /SWY	跑道入口坐标、跑道末端坐标、跑道入口大地水准面波幅 THR coordinates & RWY end coordinates & THR geoid undulation	跑道入口标高和精密进近跑道接地带最高标高 THR elevation & highest elevation of TDZ of precision APP RWY	跑道和停止道坡度 Slope of RWY/SWY
1	2	3	4	5	6	7
22	218.4° GEO 220° MAG	4500×60	(0-795m) PCR 970/R/A/W/T CONC (795-4205m) PCR 1130/F/B/W/T ASPH (4205-4500m) PCR 970/R/A/W/T CONC/-	Nil	THR 2096.2m DTHR 2096.7m TDZ 2098.3m	0.13%(385m)/0%(115m)/0.17%(2000m)/0.25%(355m)/0.11%(90m)/0.1%(700m)/-0.13%(160m)/-0.4%(695m)

跑道号码 RWY Designator	停止道长宽 SWY dimensions (m)	净空道长宽 CWY dimensions (m)	升降带长宽 Strip dimensions (m)	跑道端安全区长宽 RESA dimensions (m)	拦阻系统的位置及描述 Location& Description of arresting system	无障碍物区 OFZ
1	8	9	10	11	12	13
03	Nil	Nil	4120×300	225×150	Nil	Nil
21	Nil	Nil	4120×300	225×150	Nil	Nil
04	Nil	Nil	4620×300	240×150	Nil	Nil
22	Nil	Nil	4620×300	225×150	Nil	Nil

Remarks: 1.RWY shoulder: 7.5m on each side.

2.THR03, THR21 displaced 540m inwards. THR22 displaced 500m inwards.

3.Distance between RCLs of RWY03/21 and RWY04/22 is 1950m; THR03 is 230m north of THR04.;RWY shoulder:7.5m on each side

ZPPP AD 2.13 公布距离 Declared distances

跑道号码 RWY Designator	可用起飞滑跑距离 TORA(m)	可用起飞距离 TODA(m)	可用加速停止距离 ASDA(m)	可用着陆距离 LDA(m)	备注 Remarks
1	2	3	4	5	6
03	4000	4000	4000	3460	THR displaced 540m inwards

跑道号码 RWY Designator	可用起飞滑跑距离 TORA(m)	可用起飞距离 TODA(m)	可用加速停止距离 ASDA(m)	可用着陆距离 LDA(m)	备注 Remarks
03	3780	3780	3780	NOT AVBL	FM F9,THR displaced 540m inwards
21	4000	4000	4000	3460	THR displaced 540m inwards
21	3780	3780	3780	NOT AVBL	FM F2,THR displaced 540m inwards
04	4500	4500	4500	4500	Nil
04	4280	4280	4280	NOT AVBL	FM C9
22	4500	4500	4500	4000	THR displaced 500m inwards
22	4000	4000	4000	NOT AVBL	FM J,THR displaced 500m inwards
22	3780	3780	3780	NOT AVBL	FM C2,THR displaced 500m inwards

ZPPP AD 2.14 进近和跑道灯光 Approach and runway lighting

跑道号码 RWY Designator	进近灯类型、长度、强度 APCH LGT type/ LEN/ /INTST	入口灯颜色、翼排灯 THR LGT colour/ WBAR	目视进近坡度指示系统类型、位置、仰角、跑道入口最低眼高 Type of VASIS/Position /Angle/MEHT	接地带灯长度 TDZ LGT LEN	跑道中线灯长度、间隔、颜色、强度 RWY center line LGT LEN/Spacing /Colour/INTST	跑道边灯长度、间隔、颜色、强度 RWY edge LGT LEN/Spacing /Colour/INTST	跑道末端灯颜色 RWY end LGT colour	停止道灯长度、颜色 SWY LGT LEN /Colour
1	2	3	4	5	6	7	8	9
03	PALS CAT II SFL 900 m VRB LIH	GREEN Yes	PAPI LEFT 426m inward DTHR03 3° 21.0m	900 m	3460 m spacing 15m 0-2560m, WHITE 2560-3160m, RED/WHITE 3160-3460m, RED VRB LIH	4000 m spacing 60m 0-540m, RED 540-3400m, WHITE 3400-4000m, YELLOW VRB LIH	RED	Nil

跑道号码 RWY Designator	进近灯类型、长度、强度 APCH LGT type/ LEN/ /INTST	入口灯颜色、翼排灯 THR LGT colour/ WBAR	目视进近坡度指示系统类型、位置、仰角、跑道入口最低眼高 Type of VASIS/Position /Angle/MEHT	接地带灯长度 TDZ LGT LEN	跑道中线灯长度、间隔、颜色、强度 RWY center line LGT LEN/Spacing /Colour/INTST	跑道边灯长度、间隔、颜色、强度 RWY edge LGT LEN/Spacing /Colour/INTST	跑道末端灯颜色 RWY end LGT colour	停止道灯长度、颜色 SWY LGT LEN /Colour
21	PALS CAT I SFL 900 m VRB LIH	GREEN Yes	PAPI LEFT 440m inward DTHR21 3° 21.6m	Nil	3460 m spacing 15m 0-2560m, WHITE 2560-3160m, RED/WHITE 3160-3460m, RED VRB LIH	4000 m spacing 60m 0-3400m, WHITE 3400-4000m, YELLOW VRB LIH	RED	Nil
04	PALS CAT I SFL 900 m VRB LIH	GREEN Yes	PAPI LEFT 413m inward THR04 3° 21.8m	Nil	4500 m spacing 15m 0-3600m, WHITE 3600-4200m, RED/WHITE 4200-4500m, RED VRB LIH	4500 m spacing 60m 0-3900m, WHITE 3900-4500m, YELLOW VRB LIH	RED	Nil
22	PALS CAT II SFL 900 m VRB LIH	GREEN Yes	PAPI LEFT 437m inward DTHR22 3° 21.4m	900 m	4000 m spacing 15m 0-3100m, WHITE 3100-3700m, RED/WHITE 3700-4000m, RED VRB LIH	4500 m spacing 60m 0-500m, RED 500-3900m, WHITE 3900-4500m, YELLOW VRB LIH	RED	Nil
Remarks: APCH LGT of RWY03, RWY21, RWY22 start from DTHR.								

ZPPP AD 2.15 其它灯光,备份电源 Other lighting, secondary power supply

1	机场灯标或识别灯标位置、特性和工作时间 ABN/IBN location, characteristics and hours of operation	Nil
2	着陆方向标和风向标位置和灯光 LDI/ WDI location and LGT	WDI: RWY03:115m E of RCL, 186m S of DTHR; RWY04:98m W of RCL, 410m N of THR; RWY21:115m E of RCL, 494m S of DTHR; RWY22:98m E of RCL, 410m S of DTHR.

3	滑行道边灯和滑行道中线灯 TWY edge and center line lighting	All TWYs: green center line lights, blue retroreflective markers, blue edge line lights
4	备份电源及转换时间 Secondary power supply/Switch-over time	CAT I operation: Secondary power supply available (diesel generator), 15sec; CAT II operation: UPS and secondary power supply available (diesel generator), 1sec.
5	备注 Remarks	Nil

ZPPP AD 2.16 直升机着陆区域 Helicopter landing area

1	TLOF 坐标或 FATO 入口坐标及大地水准面波幅 Coordinates TLOF or THR of FATO, Geoid undulation	Nil
2	TLOF 和（或）FATO 标高 TLOF and/or FATO elevation	Nil
3	TLOF 和 FATO 区域范围、道面、强度和标志 TLOF and FATO area dimensions,surface, strength, marking	Nil
4	FATO 的真方位和磁方位 True and MAG BRG of FATO	Nil
5	公布距离 Declared distance available	Nil
6	进近灯光和 FATO 灯光 APP and FATO lighting	Nil
7	备注 Remarks	Nil

ZPPP AD 2.17 空中交通服务空域 ATS airspace

空域名称和水平范围 Designation and lateral limits		垂直范围 Vertical limits	空域分类 Airspace class	空中交通服务单位呼号和使用语言 ATS unit callsign Language	工作时间 Hours of applicability	备注 Remarks
1	2	3	4	5	6	7
Kunming tower control area	A circuit, 4 arcs with radius 13km centered at centers of all RWY THRs and 4 lines tangential to the adjacent 2 arcs.	SFC-3000m				

空域名称和水平范围 Designation and lateral limits		垂直范围 Vertical limits	空域分类 Airspace class	空中交通服务单位呼号和使用语言 ATS unit callsign Language	工作时间 Hours of applicability	备注 Remarks
1	2	3	4	5	6	7
Fuel Dumping Area	N2407E10113-N2333E10007-N2300E10007-N2338E10118-N2407E10113	Above 4000m				
Altimeter setting region and TL/TA	Same as Kunming APP area	TL 6000m TA 5400m 5700m(QNH≥1031hPa) 5100m(QNH≤979hPa)				

ZPPP AD 2.18 空中交通服务通信设施 ATS communication facilities

服务名称 Service designation	呼号 Callsign	频率 Frequency (MHz)	卫星话音通信号码 SATVOICE number	登录地址 Logon address	工作时间 Hours of operation	备注 Remarks
1	2	3	4	5	6	7
ATIS		126.275 (departure)			H24	D-ATIS available
		128.45 (arrival)			H24	D-ATIS available
APP	Kunming Approach	APP01:119.0 (125.55)			by ATC	
		APP02:123.8 (125.55)			by ATC	
		APP03:120.35 (127.9)			H24	
		APP03:124.25 (127.9)			H24	
		APP04:121.15 (126.55)			by ATC	
		APP05:120.35 (127.9)			by ATC	
		APP05:124.25 (127.9)			by ATC	
		APP06:Nil			by ATC	
		APP07:119.225			by ATC	
		APP08:Nil			by ATC	
TWR	Kunming Tower	E:118.1 (118.85)			H24	For RWY04/22

服务名称 Service designation	呼号 Callsign	频率 Frequency (MHz)	卫星话音通信号码 SATVOICE number	登录地址 Logon address	工作时间 Hours of operation	备注 Remarks
1	2	3	4	5	6	7
		W:130.6 (118.85)			H24	For RWY03/21
GND	Kunming Ground	E:121.65 (121.85)			H24	For RWY04/22
		W:121.95 (121.85)			HO	For RWY03/21
	Kunming Delivery	121.7 (121.85)			HO	DCL available
APN	Changshui Apron	E:121.6			by ATC	for EAST apron
		W:121.75			by ATC	for WEST apron
EMG		121.5			H24	

ZPPP AD 2.19 无线电导航和着陆设施 Radio navigation and landing aids

设施名称及类型、磁差、支持运行类别、VOR/ILS 磁偏角 Name and type of aid, VAR,Type of supported OPS, Declination of VOR/ILS	识别 ID	频率、波道 Frequency/ Channel number	工作时间 Hours of operation	发射天线坐标及相对位置 Coordinates of transmitting antenna/ Position	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
1	2	3	4	5	6	7
Jinning VOR/DME	XSJ	108.2 MHz CH 19X	H24	N24°41.0′ E102°48.0′ 199°MAG/48846m FM ARP	2383 m	
Luxi VOR/DME	LXI	112.3 MHz CH 70X	H24	N24°32.5′ E103°44.6′ 129° MAG/102076m FM ARP	1753 m	For VOR/DME：BTN 70.2-83NM on R105° for HLDG U/S; For VOR：Beyond 38NM on R292° for SID U/S; For DME：Beyond 21NM on R292° for SID U/S.
Malong VOR/DME	DJT	114.6 MHz CH 93X	H24	N25°31.9′ E103°36.3′ 056° MAG/81834m FM ARP	2314 m	

设施名称及类型、磁差、支持运行类别、VOR/ILS 磁偏角 Name and type of aid, VAR,Type of supported OPS, Declination of VOR/ILS	识别 ID	频率、波道 Frequency/ Channel number	工作时间 Hours of operation	发射天线坐标及相对位置 Coordinates of transmitting antenna/ Position	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
Panlong VOR/DME	XFA	110.8 MHz CH 45X	H24	N25°24.1′ E102°56.0′ 360°MAG/33090m FM ARP	2788 m	
Xishan VOR/DME	SGM	110.6 MHz CH 43X	H24	N25°04.9′ E102°31.2′ 268°MAG/42874m FM ARP	2312 m	
LOC 03 ILS CAT II	IZL	111.3 MHz		040°MAG/285m FM RWY03 end		
GP 03		332.3 MHz		130m W of RWY03 RCL, 316m FM DTHR03		Angle 3° , RDH 16 m
DME 03	IZL	CH 50X (111.3 MHz)			2102m	Co-located with GP 03
LOC 21 ILS CAT I	IBH	110.1 MHz		220°MAG/285m FM RWY21 end		
GP 21		334.4 MHz		125m W of RCL, 307m inside DTHR21		Angle 3° , RDH 16 m
DME 21	IBH	CH 38X (110.1 MHz)			2105m	Co-located with GP 21
LOC 04 ILS CAT I	IFY	109.3 MHz		040°MAG/300m FM RWY04 end		
GP 04		332.0 MHz		130m E of RWY04 RCL, 310m FM THR04		Angle 3° , RDH 16 m
DME 04	IFY	CH 30X (109.3 MHz)			2109m	Co-located with GP 04
LOC 22 ILS CAT II	IKM	108.5 MHz		220°MAG/285m FM RWY22 end		Beyond 25° rightside of front course U/S; Beyond 31° leftside of front course U/S
GP 22		329.9 MHz		130m E of RWY22 RCL, 320m FM DTHR22		Angle 3° , RDH 16 m

设施名称及类型、磁差、支持运行类别、VOR/ILS 磁偏角 Name and type of aid, VAR,Type of supported OPS, Declination of VOR/ILS	识别 ID	频率、波道 Frequency/ Channel number	工作时间 Hours of operation	发射天线坐标及相对位置 Coordinates of transmitting antenna/ Position	DME 发射天线标高 Elevation of DME transmitting antenna	备注 Remarks
DME 22	IKM	CH 22X (108.5 MHz)			2106m	Co-located with GP 22

ZPPP AD 2.20 本场规定

1. 机场使用规定

1.1 所有技术试飞需事先申请，并在得到空中交通管制部门批准后方可进行。

1.2 昆明长水机场提供数字化放行系统（DCL）服务。

1.2.1 预计撤轮档时间（EOBT）前 30min 至 10min，航空器驾驶员应当优先使用数字化放行系统（DCL）向空中交通管制部门（ATC）申请放行许可。

1.2.2 首次联系 ATC 时，完成 DCL 服务的机组如果未在机载设备完成确认，初始联系时需要向 ATC 复诵放行。

1.2.3 当 DCL 无法完成放行许可的申请或发布时，将转为语音方式申请或发布放行许可。

1.3 进/出港航空器在本场地面滑行时，应保持开启 ADS-B 相关机载设备。

1.4 Q 滑行道与 H3 滑行道相交东侧的中间等待位置设置有标记牌 HP1，航空器滑行至此应按空管要求将昆明地面通讯频率调整为 121.95；R 滑行道与 H2 滑

ZPPP AD 2.20 Local aerodrome regulations

1.Airport operations regulations

1.1 Each and every technical test flight or exhibition flight shall be filed in advance and conducted only after clearance has been obtained from ATC.

1.2 DCL services implemented at KUNMING/Changshui airport.

1.2.1 Flight crew shall use DCL preferentially to apply for ATC clearance 10 minutes to 30 minutes before EOBT.

1.2.2 Flight crew shall repeat clearance at the first contact with ATC controller if they didn't confirming airborne equipment after DCL services completed.

1.2.3 Flight crew shall contact ATC controller for verbal ATC clearance immediately if the DCL service is not available.

1.3 Take-off/landing aircraft shall keep ADS-B equipment on while taxiing.

1.4 The intermediate holding position sign HP1 is set on the east side of the intersection of TWY Q and H3, the aircraft taxiing by here shall adjust the Kunming GND

行道相交西侧的中间等待位置设置有标记牌 HP2，航空器滑行至此应按空管要求将昆明地面通讯频率调整为 121.65。

communication frequency to 121.95 MHz according to ATC requirement.

The intermediate holding position sign HP2 is set on the west side of the intersection of TWY R and H2, the aircraft taxiing by here shall adjust the Kunming GND communication frequency to 121.65 MHz according to ATC requirement.

2. 跑道和滑行道的使用

2. Use of runways and taxiways

2.1 可以通过地面指挥中心申请引导车和拖车服务。

2.1 Follow-me vehicle service and towing service are available via ground control center.

2.2 禁止航空器在滑行道上做 180°转弯，未经 ATC 许可，禁止航空器在跑道上自行做 180°转弯。

2.2 180° turnaround on TWY is strictly forbidden for all aircraft, 180° turnaround on RWY is strictly forbidden for all aircraft without ATC permission.

2.3 跑道运行规则：

2.3 Rules for the use of runways:

2.3.1 根据实际情况，管制单位可采用单跑道或双跑道运行。

2.3.1 According to the actual situation, single RWY operations or double RWY operations can be implemented within the aerodrome.

2.3.2 转换跑道运行方向要求：当跑道顺风分量达到 3.5m/s，且有继续增大趋势时，管制员将启动跑道转换工作。在转换使用跑道方向过程中，使用跑道的顺风分量大于 3.5m/s 但不大于 5m/s 时，管制员通知机组地面风向、风速后，如果因航空器性能限制等原因无法接受时，机组应立即告知管制员，并听从其进一步指令。当跑道顺风分量大于 5m/s，应停止顺风起降。

2.3.2 Requirements on runway conversion procedure: If downwind speed is more than 3.5m/s and has a tendency to increase, the RWY in use shall be converted. In the process of converting direction of RWY in use, if 3.5m/s ＜downwind≤5m/s,ATC shall inform flight crew about wind direction and wind speed.If runway conversion can't be executed due to aircraft's performance limits,flight crew shall report to ATC immediately and follow the next instruction.When downwind speed is more than 5m/s,stop taking off or landing.

2.3.3 为减少起飞和着陆航空器占用跑道时间，加速飞行流量，做如下要求（湿跑道或污染跑道除外）：

2.3.3 To reduce the occupancy time of aircraft during take-off and landing and accelerate traffic flow, the following requirements are implemented, except on wet or contaminated runways.

2.3.3.1 起飞航空器：从接到管制员进入跑道指令至对正跑道的时间应不超过 60s。如驾驶员认为无法满足要求，须在到达跑道等待点之前向塔台管制员说明。

2.3.3.1 Departure aircraft shall finish RWY alignment within 60s after receiving ATC instructions of entering RWY. If aircraft can not fulfill the process within the required time, flight crew shall inform TWR before reaching the RWY holding positions.

2.3.3.2 落地航空器：应尽快脱离跑道，从接地至完全脱离跑道的时间应不超过 50s，低能见度程序运行期间应不超过 60s。如驾驶员认为无法满足要求，须在建立五边进近航径或三转弯之前通知进近管制员。

2.3.3.2 Landing aircraft shall fully vacate RWY within 50s after touch down.If aircraft can not fulfill the process within the required time, flight crew shall inform APP(No later than base turn or the localizer is established).

2.3.4 落地的航空器应使用快滑脱离跑道后尽早联系地面管制索取滑行指令，否则使用 21 号、22 号跑道落地的航空器应在F滑行道或C滑行道上机头向南等待管制指令,使用 03 号、04 号跑道落地的航空器应在 F 滑行道或 C 滑行道上机头向北等待管制指令；

2.3.4 Arrival aircraft vacating runway via rapid exit taxiway shall contact the GND control as soon as possible, hold on TWY F or TWY C nose to south before obtaining taxiing instructions from GND control when RWY21 and RWY22 in use, or hold on TWY F or TWY C nose to north before obtaining taxiing instructions from GND control when RWY03 and RWY04 in use;

2.3.5 出港航空器均默认可以接受使用以下非全跑道方式离场，航空器驾驶员如不能接受使用非全跑道方式离场时，应当及时通报 ATC。

2.3.5 All departing aircraft are cleared by default for intersection departure. If unable to comply, the pilot must immediately advise ATC.

2.3.5.1 使用 03 号非全跑道方式离场时，默认由 F9 滑行道进入跑道，可用起飞滑跑距离为 3780m。

2.3.5.1 When conducting a intersection departure from Runway 03, entry to the runway via TWY F9 by default, with TORA 3780m.

2.3.5.2 使用 21 号非全跑道方式离场时，默认由 F2 滑行道进入跑道，可用起飞滑跑距离为 3780m。

2.3.5.2 When conducting a intersection departure from Runway 21, entry to the runway via TWY F2 by default, with TORA 3780m.

2.3.5.3 使用 04 号非全跑道方式离场时，默认由 C9 滑行道进入跑道，可用起飞滑跑距离为 4280m。

2.3.5.3 When conducting a intersection departure from Runway 04, entry to the runway via TWY C9 by default, with TORA 4280m.

2.3.5.4 使用 22 号非全跑道方式离场时，默认由 J 滑行道进入跑道，可用起飞滑跑距离为 4000m。

2.3.5.4 When conducting a intersection departure from Runway 22, entry to the runway via TWY J by default, with TORA 4000m.

2.4 双跑道同时仪表运行规定：

2.4 Simultaneous operations on double runways

2.4.1 四种运行模式：独立平行离场、相关平行仪表进近、隔离平行运行、独立平行仪表进近。模式的选择及使用跑道听从管制员指令，运行时间为 24h。

2.4.1 Four operation modes can be implemented: independent parallel departures, dependent parallel ILS approaches, segregated parallel approaches/departures, and independent parallel ILS approaches. Follow ATC instructions for the specific operation mode and the runway in use, operation time is 24h.

2.4.2 间隔标准：按《平行跑道同时仪表运行管理规定》执行。

2.4.2 The standard separation is according to the Regulations of Simultaneous Operations on Parallel Runways.

2.4.3 当出现风切变、颠簸、下降气流或强侧风等可能加大航空器偏离仪表着陆系统航向道的程度时，航空器驾驶员应立即向管制员报告，根据收到的机组报告和气象信息，空中交通管制部门可根据平行跑道实施方案中的有关程序，及时终止相关平行仪表进近模式或完全终止平行跑道同时仪表运行。

2.4.3 Under certain adverse weather conditions(e.g. windshear, turbulence, down drafts or crosswind) which might increase ILS localizer course deviations to the extent that safety may be impaired and/or an unacceptable number of deviation alerts would be generated, pilot must report the situation to controller immediately. According to the reports and weather information, ATC unit shall decide the necessity to terminate the dependent parallel approaches or

independent parallel ILS operations completely.

2.4.4 为了防止误认跑道，请机组在复诵管制指令时务必包含跑道号。

2.4.4 The flight crew should repeat RWY number when they repeat control instructions to prevent runway misidentification.

2.5 在滑行等待位置前设置有等待线标志，未经 ATC 许可，禁止航空器通过。

2.5 Without ATC clearance, the aircraft is prohibited to go across the holding position markings before the designated holding position.

2.6 地面常规滑行路线进离港航空器在不同运行模式下对应使用下表中常规滑行路线， 具体以管制指令为准。

2.6 The regular taxi routes on the ground for inbound and outbound aircraft in different modes of operation correspond to the regular taxi routes in the following table, the specific instructions are subject to ATC instructions.

Operation mode	RWY use	Route Nr.	Taxiing route
RWY03 only	RWY03 departure	Route1	T23/T22/D6/D3/M/L/J -D-Q-F-RWY03 holding position or (F9/W/E3)/(N/L/F2-E-Q)-F-RWY03 holding position
	RWY03 landing	Route2	F-R-H1/(C-D9/D8/U)/(D-D4/C2) -Parking stands or F-F9/E5/E4/S/P/(L-E-M)/K/E1/F2 -Parking stands
RWY04 only	RWY04 departure	Route3	(D9/D7/D6)/(D3/L/M/J-D-R)-C-RWY04 holding position or T26/T25/E3/N/L/F2 -E-R-C-RWY04 holding position
	RWY04 landing	Route4	C-D9/D8/U/S/P/N/D4/C2 -Parking stands or

			C-Q-H4/(E-M)/(F-F9/E5/E4) -Parking stands
RWY03 & RWY04	RWY03 departure	Route1	T23/T22/D6/D3/M/L/J -D-Q-F-RWY03 holding position or (F9/W/E3)/(N/L/F2-E-Q)-F-RWY03 holding position
	RWY04 departure	Route3	(D9/D7/D6)/(D3/L/M/J-D-R)-C-RWY04 holding position or T26/T25/E3/N/L/F2 -E-R-C-RWY04 holding position
	RWY03 landing	Route2	F-R-H1/(C-D9/D8/U)/(D-D4/C2) -Parking stands or F-F9/E5/E4/S/P/(L-E-M)/K/E1/F2 -Parking stands
	RWY04 landing	Route4	C-D9/D8/U/S/P/N/D4/C2 -Parking stands or C-Q-H4/(E-M)/(F-F9/E5/E4) -Parking stands
RWY21 only	RWY21 departure	Route5	T23/T22/D6/D3/M/L/J -D-Q-E-RWY21 holding position or T26/T25/E3/N/L/F2-E-RWY21 holding position
	RWY21 landing	Route6	(E6/E5/E4/S-E)/F-R-H1/(C-D9/D8/U/)/(D-N/D4/C2) -Parking stands or F-F9/E5/E4/S/P-Parking stands
RWY22 only	RWY22 departure	Route7	T23/T22/D6/D3/M/L/J -D-RWY22 holding position or T26/T25/E3/N/L/F2 -E-R-D-RWY22

			holding position
	RWY22 landing	Route8	C-D9/D8/U/S/P/N/D4/C2-Parking stands or D8/U/S-D-Q-H4/(F-F9/E5/E4)-Parking stands
RWY21 & RWY22	RWY21 departure	Route5	T23/T22/D6/D3/M/L/J -D-Q-E-RWY21 holding position or T26/T25/E3/N/L/F2-E-RWY21 holding position
	RWY22 departure	Route7	T23/T22/D6/D3/M/L/J -D-RWY22 holding position or T26/T25/E3/N/L/F2 -E-R-D-RWY22 holding position
	RWY21 landing	Route6	(E6/E5/E4/S-E)/F-R-H1/(C-D9/D8/U/)/(D-N/D4/C2) -Parking stands or F-F9/E5/E4/S/P-Parking stands
	RWY22 landing	Route8	C-D9/D8/U/S/P/N/D4/C2-Parking stands or D8/U/S-D-Q-H4/(F-F9/E5/E4)-Parking stands

2.7 滑行道的使用限制： 2.7 TWYs limits:

滑行道/TWYs	航空器翼展限制/Wing span limits for aircraft
C, C1-C4, C7-C10, D, D3, D4(E of D), N(BTN C&D), D6(E of D), D7-D9, H1(BTN S & Q), J, L(E of H1), P(E of H3), Q(E of H1), R(E of H1), S, U(E of D)	<80m

F2(E of E), H4(N of E1)	<36m
Others	<65m

2.8 对机组的要求：

2.8 Requirements for pilots:

2.8.1 机组应听清并复诵地面管制员和机坪管制员的滑行指令，尤其是界限性指令，发现疑问及时证实。

2.8.1 Repeat GND and APN Control's taxiing instructions, especially the limitations, and verify any questions immediately.

2.8.2 从停机位推出时，向地面管制员证实使用跑道、推出方向。

2.8.2 While pushed back from parking stand, verify the pushing direction and the approved RWY designation from GND Control.

2.8.3 在脱离跑道首次与地面管制联系时，尤其在低能见度情况下，必须向地面管制员报告脱离的跑道和所使用的滑行道等具体位置。

2.8.3 After vacating RWY, especially under conditions of low visibility, report the RWY designation and TWY designation on initial contact with GND.

2.8.4 如在管制扇区移交时联系不畅，应在交接点停止滑行，并向原先联系的扇区报告。

2.8.4 Stop at the designated holding position if communication failures occurred, and report to the last ATC Control.

2.8.5 机组初始联系塔台管制时须报告收到的离港方式。

2.8.5 Report about the received departure procedure to TWR Control on the first contact.

2.8.6 当机坪管制员发布‘可以推出开车’的指令后，要求航空器驾驶员在 5min 之内执行指令，若超过 5min 管制指令自动取消，航空器驾驶员需要重新申请。

2.8.6 Departing aircraft shall contact APN Control for push-back and start-up clearance and conduct within 5 minutes, otherwise, reapply the clearance.

2.8.7 快速脱离道使用要求（全跑道落地除外）

2.8.7 Rapid exit TWYs Rules(except full RWY landing)

Landing RWY in use	Rapid exit TWYsto use	Rapid exit TWYsprohibited to use
RWY04	C3/C4/C5	C6/C7/C8
RWY22	C6/C7/C8	C3/C4/C5
RWY03	F3/F4/F5	F6/F7/F8

RWY21	F6/F7/F8	F3/F4/F5

2.9 机场冲突多发地带运行要求

2.9.1 HS1: 由Q滑行道上F滑行道的航空器应严格执行ATC指令在相应道口前等待，发现冲突应及时避让，并报告ATC。

2.9.2 HS2：途经此区域的航空器应严格执行ATC指令在相应道口前等待，发现冲突应及时避让，并报告ATC。

2.9.3 HS3：自西向东沿S滑离港的航空器，应避免误入跑道。

2.9.4 HS4：自西向东沿U滑离港的航空器，应避免误入跑道。途径此区域的航空器，应严格执行ATC指令在相应道口前等待。航空器驾驶员发现冲突应主动避让，并向ATC证实。

2.9.5 HS5：此区域为管制盲区，航空器需严格执行ATC指令。

2.9.6 HS6：此区域为管制盲区，航空器需严格执行ATC指令。

2.9.7 HS7：由H2滑行道向Q或R滑行道滑行的航空器应注意Q、R滑行道的单向运行限制，严格执行ATC指令在相应道口前等待。

2.9.8 HS8：由H3滑行道向Q或R滑行道滑行的航空器应注意Q、R滑行道的单向运行限制，严格执行ATC指令在相应道口前等待。

2.9 Hot spot procedure

2.9.1 HS1: Aircraft taxiing from TWY Q to TWY F shall implement ATC instruction strictly at the holding position to avoid conflict and report it.

2.9.2 HS2: Aircraft shall implement ATC instruction strictly at the holding position to avoid conflict and report it.

2.9.3 HS3: Departure aircraft taxiing on TWY S from west to east shall avoid to enter RWY.

2.9.4 HS4: Departure aircraft taxiing on TWY U from west to east shall avoid to enter RWY. Aircraft travelling through this area should strictly follow ATC instructions to wait in frount of the crossing. Flight crew should take the initiative to avoid conflicts and confirm to ATC.

2.9.5 HS5: Control blind zone, aircraft shall implement ATC instruction strictly.

2.9.6 HS6: Control blind zone, aircraft shall implement ATC instruction strictly.

2.9.7 HS7: Aircraft taxiing from TWY H2 to TWY Q or TWY R shall pay attention to one-way restrictions of TWY Q & R, implement ATC instruction strictly at the holding position.

2.9.8 HS8: Aircraft taxiing from TWY H3 to TWY Q or TWY R shall pay attention to one-way restrictions of TWY Q R, implement ATC instruction strictly at the holding position.

2.9.9 HS9：501-516 停机位为自滑出机位，在此区域运行的航空器应严格执行 ATC 指令，按照 ATC 安排的顺序滑行，对滑行有疑问时原地等待并向 ATC 证实。

2.9.9 HS9: When use stands Nr.501-516, aircraft shall taxi out on own power, implement ATC instruction strictly and taxi in sequence according to ATC instructions. Pilots should hold position and contact ATC to verify when in doubt.

2.9.10 HS10：531-554 停机位为自滑出机位，在此区域运行的航空器应严格执行 ATC 指令，按照 ATC 安排的顺序滑行，对滑行有疑问时原地等待并向 ATC 证实。

2.9.10 HS10: When use stands Nr.531-554, aircraft shall taxi out on own power, implement ATC instruction strictly and taxi in sequence according to ATC instructions. Pilots should hold position and contact ATC to verify when in doubt.

2.9.11 HS11：S202-S207 停机位为自滑入、顶推出机位，在此区域运行的航空器应严格执行 ATC 指令，按照 ATC 安排的顺序滑行，对滑行有疑问时原地等待并向 ATC 证实。

2.9.11 HS11: When use stands Nr.S202-S207, aircraft shall be pushed back and taxi in on own power, implement ATC instruction strictly and taxi in sequence according to ATC instructions. Pilots should hold position and contact ATC to verify when in doubt.

2.9.12 HS12：此区域的航空器，应严格执行 ATC 指令在相应道口前等待。航空器驾驶员发现冲突应主动避让，并向 ATC 证实。

2.9.12 HS12: Aircraft shall implement ATC instruction strictly at the holding position to avoid conflict and report it.

2.9.13 HS13：此区域的航空器，应严格执行 ATC 指令在相应道口前等待。航空器驾驶员发现冲突应主动避让，并向 ATC 证实。

2.9.13 HS13: Aircraft shall implement ATC instruction strictly at the holding position to avoid conflict and report it.

2.9.14 HS14：途径此区域的航空器，应严格执行 ATC 指令在相应道口前等待。航空器驾驶员发现冲突应主动避让，并向 ATC 证实。

2.9.14 HS14: Aircraft travelling through this area should strictly follow ATC instructions to wait in frount of the crossing. Flight crew should take the initiative to avoid conflicts and confirm to ATC.

2.10 为保证航空器主起落架外轮胎边缘与承重道面边线间保持足够的净距，本场滑行运行限制如下：

2.10 Operational restrictions for taxiing:

2.10.1 翼展大于 52m（含）或主起落架外轮外边距大

2.10.1 Aircraft with a wingspan of 52 meters or greater

于 9.8m(含)的航空器在 F1、F2、F9、F10 滑行道与 F 滑行道之间的交叉口，E、H4 滑行道与 E3 滑行道的交叉口，D、H1 滑行道与 D6 滑行道之间的交叉口进行任一方向转弯时，需飞行员自行判断采用过线转弯的滑行方法，提示机组注意；

or outer main landing gear wheel spacing of 9.8 meters or more must exercise pilot judgment to perform line-over turns when making directional turns at the following intersections: TWYs F1, F2, F9, F10 intersecting with TWY F; TWYs E and H4 intersecting with TWY E3; TWYs D and H1 intersecting with TWY D6. Flight crews are advised to maintain heightened vigilance during these maneuvers.

2.10.2 A350-1000、B777-300 航空器在 E1、E4、E5、F2、L、M、N、P、Q、R、S、W 滑行道与 E 滑行道的交叉口，E1、F2、K、L、M、N、P、Q、R、S 滑行道与 H4 滑行道之间的交叉口，H2、H3 滑行道与 R 滑行道之间的交叉口进行任一方向转弯时，需飞行员自行判断采用过线转弯的滑行方法，提示机组注意。

2.10.2 For A350-1000 and B777-300 aircraft, pilots must similarly execute line-over turns at the following intersections:E1, E4, E5, F2, L, M, N, P, Q, R, S, W TWYs intersecting with TWY E; E1, F2, K, L, M, N, P, Q, R, S TWYs intersecting with TWY H4; H2, H3 TWYs intersecting with TWY R.Flight crews are advised to maintain heightened vigilance during these maneuvers.

2.11 K 滑与 E1 滑之间的 H4 滑不能提供 A350-900 、B787-9 、B787-8 机型使用。

2.11 TWY H4 between TWY K and TWY E1 is not available to A350-900, B787-9, B787-8.

2.12 RWY21 不提供 B747-400 机型起飞使用。

2.12 RWY21 is not available for B747-400 takeoffs.

3. 机坪和机位的使用

3. Use of aprons and parking stands

3.1 机场机坪管制由昆明机场地面管制指挥室负责，长水机坪管制（APN）范围：机坪及机场机动区内除跑道、C、D、E、F、Q、R 滑行道、D 与 04/22 跑道之间的所有联络道、E 与 03/21 跑道之间的所有联络道、Q 与 R 之间的所有联络道以外的区域（如机场图所示）。具体管制移交点及移交方式听从管制员指令执行。

3.1 Apron Control service is provided in aprons and parts of airport maneuvering area(shown in Aerodrome Charts), the flight crew shall follow APN/GND's instructions.

3.2 离港航空器应向塔台管制室申请放行许可，取得

3.2 Departure flight shall obtain delivery clearence from

放行许可后，须继续在该管制频率守听。当机组完全准备好申请推出开车时，应告知塔台放行管制席已完全准备就绪，并按照塔台放行管制席发布的指令转频到长水机坪管制，由长水机坪管制负责发布所有航空器的推出、开车许可。在长水机坪范围内，由长水机坪管制发布滑行指令，在空管塔台管制范围内，由空管塔台管制发布滑行指令。

TWR Control, and keep listening on the frequency. When ready to push-back, pilots shall contact Delivery to change frequency to APN Control, then follow the instructions about push-back and start-up.

3.3 停机位使用的限制

3.3 Limits for the aircraft parking on the following stands:

停机位/Stands	航空器翼展限制/ Wing span limits for aircraft (m)	滑入滑出方式 /Enter or Exit
Nr.105, 129, 140, L4, L5	<80	Taxi-in and push-out
Nr.518	<80	Push-in and taxi-out
Nr.106, 107, 134, 135, 163, 164, 312, 313, 322, 323, 521, 522, 527, S102-S104, S130-S133, 709, 720, 721	<65	Taxi-in and push-out
Nr.708	<65	Push-in and push-out
Nr.L816	<65	Taxi-in and taxi-out
Nr.705, 722, 723	<61	Taxi-in and push-out
Nr.103, 108-110, 112, 113, 115, 116, 126, 128, 130-133, 138, 139, 141, 142, 153, 155, 156, 158-162, 166, 167, 311, 314, 321	<52	Taxi-in and push-out
Nr.101, 104, 114, 154, 157, 165,	<48	Taxi-in and push-out

318, 330		
Nr.102, 111, 117-125, 127, 136, 137, 143-152, 168, 315-317, 324-329, 521L/R, 522L/R, 527L/R, 592-593, 701-704, 706, 707, 710-719, 722A, 722B, 724, S101, S105-S129, S134-S138, S202-S219	<36	Taxi-in and push-out
Nr.501-508, 511-516, 531-536, 539-554, 801-807	<36	Taxi-in and taxi-out
Nr.517, 591	<36	Push-in and taxi-out
Nr.708L/R	<36	Push-in and push-out
Nr.808-815	<30.5	Taxi-in and push-out

3.4 不能同时使用的机位

3.4 Stands forbidden to use simultaneously

The stands in use	The stands forbidden to use	The stands in use	The stands forbidden to use
521	521L/R	522	522L/R
527	527L/R	722	722A/722B
708	708L/R		
521L/R	521	522L/R	522
527L/R	527	722A/722B	722
708L/R	708		
L816	801-815	801/802/803/804/805/ 806/807/808/809/810/ 811/812/813/814/815	L816
L4	311/312	L5	312/313

311	L4	312	L4/L5
313	L5		

3.5 桥载设备参数

3.5 Equipment parameters of the boarding bridge

Stands	Power of 400Hz Ground Power Unit (kW)	Quantity of 400Hz Ground Power Unit	Power of Air conditioning system(kW)	Quantity of Air conditioning system
102、111、117-125、127、143-152、168	90	23	106	23
101、103-110、112-116、126、128-142、153-167	90	54	127.5	45
S101、S105-S129、S134-S138	90	31	160	31
S102-S104、S130-S133	90	21	160	14

3.6 除冰规则

3.6 Rules for deicing

3.6.1 两种除冰模式：定点除冰和机位除冰

3.6.1 Two ways for de-icing: de-icing at fixed point and de-icing at local stands.

3.6.2 关车定点除冰过程：

3.6.2 Process of deicing at deicing positions with engine off

3.7 推出滑行：需除冰的航空器在推出前向机坪管制申请，若除冰位置在机坪管制范围内，由昆明机场地面管制指挥室指挥航空器滑行至除冰位置；若除冰位置在空管塔台地面管制范围内，由昆明机场地面管制

3.7 Push-back and taxiing: Contact APN Control before push-back. If the deicing position is within the scope of APN Control, APN Control provide taxiing service to the deicing position. If the deicing position is within the

指挥室指挥航空器滑行至移交点，交由空管地面管制指挥航空器滑行至除冰位置。

scope of GND Control, APN Control provide taxiing service at first, then turn over to GND Control at the holding position.

3.8 滑入除冰位：当引导车位于航空器正前方开始行驶时，航空器应跟随引导车进入除冰位或按机坪或塔台管制指令滑入除冰位。

3.8 Taxiing to deicing position: Aircraft shall follow the follow-me vehicle to the decing position, or taxi to the position designated by APN or TWR Control instructions.

3.9 除冰开始：根据入位引导员手势停稳航空器，关闭发动机，直至接到机务轮档档好的通知后，松开刹车，开始除冰。

3.9 Before deicing: Stop aircraft following marshalman's instructions, shut down engines, then loosen brake upon maintenance person's notification.

3.10 除冰结束：除冰完毕，机组在记录本上签字，向机坪或塔台管制申请开车滑出。

3.10 After deicing: Contact APN or TWR Control to apply start-up clearance.

4. 低能见度运行

4. Low visibility operation

4.1 低能见度运行（II 类）

4.1 Low Visibility Operation Procedures (II)

4.1.1 达到以下条件时，本场将启动低能见度运行程序：

4.1.1 Low Visibility Operation Procedures will be implemented with following conditions:

4.1.1.1 在机场天气条件变坏的情况下，机场主导能见度≤1000m，或云底高、垂直能见度任一值≤90m，且有下降趋势时；

4.1.1.1 Under the condition of bad weather, airport prevailing visibility ≤1000m, height of cloud base or vertical visibility ≤90m, and have a tendency to be worse;

4.1.1.2 在机场天气条件由差转好的情况下，预计跑道视程≥150m，或云底高、垂直能见度任一值≥30m 时；

4.1.1.2 Under the condition of weather from bad to good, estimated RVR≥150m, height of cloud base or vertical visibility≥30m;

4.1.1.3 当机组目视观察并报告能见度较差，认为有必要启动低能见度运行程序时。

4.1.1.3 Low Visibility Operation Procedures will be implemented while flight crew report visibility is worse based on visual observation.

4.1.2 当天气条件满足相应的低能见度运行标准时，

4.1.2 When it is available to implement Low Visibility

航空器起降标准和使用跑道情况见机场图和仪表进近图。

Operation Procedures, see more details about Take-off/ Landing MINIMA in aerodrome charts and instrument approach charts.

4.2 航空器引导

4.2 Follow-me vehicle service

4.2.1 低能见度程序运行中，对提出引导需求的航空器实施引导，引导服务仅限于机坪内。

4.2.1 When Low Visibility Procedure in force, follow-me vehicle can provide service for aircrafts on request within apron.

4.2.2 引导车在引导航空器时，车辆行驶速度不得超过 20km/h，距被引导的航空器不得小于 60m。

4.2.2 The speed of follow-me vehicle shall less than 20km/h in service, the distance from guided aircraft is no less than 60m.

4.2.3 航空器在推出停机位时，航空器的营运人或代理人应派专人负责观察过往航空器并按规定避让。

4.2.3 The operator or agent of the aircraft shall assign a person to observe passing aircrafts and conduct avoidance in accordance with regulations when the aircraft is being pushed back.

4.2.4 当引导路线上局部能见度低于 100m 或者在视线不清、难以保证安全的情况下，不得进行引导工作，并将情况通报地面管制指挥室。

4.2.4 Along guiding route, if partial visibility is less than 100m or it is under unclear sight or unsafe condition, stop guidance service, pilots shall report GND Control.

4.2.5 注意事项

4.2.5 Notice

a) 引导车灯开启表示开始引导，引导车灯关闭表示终止引导；

a) The follow-me vehicle lights on means start guiding, the follow-me vehicle lights off means end guiding;

b) 引导工作分离点为机坪与滑行道的连接处。

b) Separation point of guidance service is connection between apron and taxiway.

4.2.6 II 类运行时，离场航空器应在指定滑行道的等待位置进行等待（A380 离场时，未经塔台管制员许可不得进入 C 滑行道），避免进入仪表着陆系统敏感区；进场航空器应在确认已完全离开仪表着陆系统敏感区后，再向塔台管制员报告“航空器已脱离跑道”。

4.2.6 When ILS CAT II is implemented, departing aircraft shall hold at appointed TWY holding position(departing aircraft A380 can not enter TWY C without ATC permission), and avoid to enter ILS sensitive area; arrival aircraft shall report to ATC "aircraft has vacated RWY" after confirming the aircraft

has left ILS sensitive area completely.

4.3 使用 HUD 实施特殊批准 II 类运行特殊要求

4.3 Special requirements for HUD special CAT II

4.3.1 当昆明机场启动低能见度运行期间，若使用 03 号跑道起飞，03 号跑道 I 类等待位置和 II 类等待位置共用，均为 F9 滑行道和 F10 滑行道上的 A 型跑道等待位置，在实施 03 号跑道低能见度运行程序期间，航空器应滑行至 F9、F10 滑行道上的 A 型跑道等待位置进行等待。

4.3.1 During LVP operations, when using RWY 03 to departure, the CAT I and CAT II holding positions for RWY 03 are co-located at RWY holding positions type-A on TWYs F9 and F10 . During the implementation of LVP on Runway 03, aircraft must taxi to RWY holding positions type-A on TWYs F9 and F10 for waiting.

4.3.2 当昆明机场启动低能见度运行期间，若使用 22 号跑道起飞，由于 C 滑行道以东的 J 滑行道与 C 滑行道以东的 C2 滑行道区域位于 22 号跑道敏感区内，因此航空器不能通过 J 滑行道、C2 滑行道进入 22 号跑道减跑道起飞。仅能在 C1 滑行道 A 型等待标志位置等待，进入 22 号跑道全跑道起飞。

4.3.2 When LVP implemented at the airport, ACFT taking off from RWY22 shall not enter RWY22 via TWY J or TWY C2 to implement partial runway take-off, due to TWY J and TWY C2 east of TWY C in sensitive area of RWY22. ACFT shall hold at the type-A holding position on TWY C1 before entering RWY22 for full runway take-off.

4.3.3 在实施特殊批准 II 类运行期间，使用 04 号跑道着陆时，前序航空器在快速出口滑行道 C3、C4 和 C5 滑行道上完全脱离后，后序航空器才能从中间进近定位点使用 HUD 实施特殊类精密进近。

4.3.3 During conducting HUD special II, ACFT using RWY04 for landing start conducting HUD special II approaching at intermediate fix as long as the ACFT ahead has vacated runway via TWY C3,C4 or C5.

4.3.4 在实施特殊批准 II 类运行期间，使用 04 号跑道起飞时，C 滑行道上只能安排垂尾高度小于等于 14m 的航空器等待，并且从 C 滑行道的 B 型跑道等待位置开始等待，沿 C 滑行道等待数量须不大于 4 架。

4.3.4 During conducting HUD special II, ACFT take off from RWY04 via TWY C shall hold at RWY holding position type-B. TWY C is available for ACFT with vertical tail 14m or less and shall be no more than 4 aircrafts for holding.

4.3.5 在实施特殊批准 II 类运行期间，使用 04 号跑道起飞时，航空器（所有机型）可以在 D 滑行道上的 B 型等待位置等待，如果从 D 滑行道上开始等待，则沿

4.3.5 During conducting HUD special II, ACFT take off from RWY04 via TWY D shall hold at RWY holding position type-B. No more than 4 aircrafts would be

D 滑行道上等待数量须不大于 4 架。

4.3.6 实施特殊批准 II 类运行期间，C10 滑行道至 P 滑行道之间的 C 滑行道禁止停放垂直尾翼高度大于 14m 的航空器，P 滑行道至 N 滑行道之间的 C 滑行道禁止停放停放垂直尾翼高度大于 20m 的航空器。

4.3.7 在实施特殊批准 II 类运行期间，使用 21 号跑道着陆时，前序航空器在快速出口滑行道 F6、F7 和 F8 滑行道上完全脱离后，后序航空器才能从中间进近定位点使用 HUD 实施特殊类精密进近。

4.3.8 在实施特殊批准 II 类运行期间，使用 21 号跑道起飞时，F 滑行道上只能安排垂尾高度小于等于 14m 的航空器等待，从 F1 滑行道上的 A 型跑道等待位置沿 F 滑行道开始等待，等待数量须不大于 6 架。从 F2 滑行道上的 A 型跑道等待位置沿 F 滑行道开始等待，等待数量须不大于 4 架。

4.3.9 航空器（除翼展 65m（含）以上及 B747-400 以外所有机型）可以在 E 滑行道上等待：从 F1 滑行道或 F2 滑行道的 A 型跑道等待位置开始等待，沿整条 E 滑行道上等待数量均须不大于 6 架。

4.3.10 在实施特殊批准 II 类运行期间，F1 滑行道至 P 滑行道之间的 F 滑行道上禁止停放和运行垂直尾翼高度大于 14m 的航空器。

5. 直升机飞行限制，直升机停靠区

无

required to hold at TWY D.

4.3.6 During conducting HUD special II, TWY C between TWY C10 and TWY P shall not available for ACFT with vertical tail more than 14m. TWY C between TWY P and TWY N shall not available for ACFT with vertical tail more than 20m.

4.3.7 During conducting HUD special II, ACFT using RWY21 for landing start conducting HUD special II approaching at intermediate fix as long as the ACFT ahead has vacated runway via TWY F6,F7 or F8.

4.3.8 During conducting HUD special II, ACFT take off from RWY21, TWY F shall available for ACFT with vertical tail 14m or less and shall be no more than 6 aircrafts when holding start RWY holding position in TWY F1, no more than 4 aircrafts when holding start RWY holding position in TWY F2.

4.3.9 All ACFT except aircraft with a wingspan of 65 meters or greater or B747-400 could hold at TWY E. No more than 6 aircrafts would be required to hold along TWY E if ACFT start holding at RWY holding position type-A of TWY F1 or F2.

4.3.10 During conducting HUD special II, TWY F between TWY F1 and TWY P shall not available for ACFT with vertical tail more than 14m.

5. Helicopter operation restrictions and helicopter parking/docking area

Nil

6. 警告

无

ZPPP AD 2.21 减噪程序

无

ZPPP AD 2.22 飞行程序

1. 总则

无

2. 起落航线

2.1 RWY03/21 起落航线仅允许在跑道西侧进行，起落航线高度 QNH2700m，一转弯高度不低于 QNH2700m，宽度不超过 8km。

2.2 RWY04/22 起落航线仅允许在跑道东侧进行，起落航线高度 QNH3000m，一转弯高度不低于 QNH3000m，宽度不超过 8km。

3. 仪表飞行程序

严格按照航图中公布的进、离场程序飞行。

4. 雷达程序和/或 ADS-B 程序

4.1 昆明进近内实施雷达管制，航空器最小水平间隔为 5.6km，最小垂直间隔为 300m。

4.2 雷达引导

6. Warning

Nil

ZPPP AD 2.21 Noise abatement procedures

Nil.

ZPPP AD 2.22 Flight procedures

1. General

Nil

2. Traffic circuits

2.1 The traffic circuit for RWY03/21 is permitted only on the west side of the runway. The circuit altitude shall be QNH2700m , with the first turn altitude not less than QNH 2700m , and the circuit width not exceeding 8km.

2.2 The traffic circuit for RWY04/22 is permitted only on the east side of the runway. The circuit altitude shall be QNH3000m , with the first turn altitude not less than QNH 3000m , and the circuit width not exceeding 8km.

3. IFR flight procedures

Strict adherence is required to the relevant arrival/departure procedures published in the aeronautical charts.

4. Radar procedures and/or ADS-B procedures

4.1 Radar control within Kunming APP has been implemented. The minimum horizontal radar separation is 5.6km; the minimum vertical radar separation is 300m.

4.2 Radar vectoring

根据航空器性能或管制规定，发布雷达引导、上升或下降高度及速度调整的指令，使航空器之间保持规定的雷达间隔或尾流间隔;

Instructions about radar vectors, ascent/descent altitudes or speed adjustment will be issued for spacing and separating the aircraft so that stipulated radar intervals and wake intervals are maintained, taking into account aircraft characteristics or control regulations;

4.3 最低监视引导高度扇区

4.3 Surveillance Minimum Altitude Sectors

Sector 1	ALT limit: 2850m or above
N250538 E1023946-N251024 E1025735-N251338 E1025907-N251949 E1030423-N251218 E1031446-N250833 E1031059-N251319 E1030424-N250906 E1025848-N250713 E1025617-N250515 E1025415-N244421 E1024727-N244006 E1024412-N245113 E1022504-N245715 E1023017-N245113 E1023840-N245515 E1024210-N250538 E1023946	
Sector 2	ALT limit: 3300m or above
N250515 E1025415-N250713 E1025617-N250906 E1025848-N250201 E1030836-N243718 E1025938-N244421 E1024727-N250515 E1025415	
Sector 3	ALT limit: 3000m or above
N250906 E1025848-N251319 E1030424-N250833 E1031059-N251218 E1031446-N251949 E1030423-N252311 E1030716-N253258 E1031341-DJT-N243953 E1032726-N242906 E1030258-N243808 E1024733-N244006 E1024412-N244421 E1024727-N243718 E1025938-N250201 E1030836-N250906 E1025848	
Sector 4	ALT limit: 3200m or above
N243953 E1032726-DJT-N253258 E1031341-N253737 E1031645-N261049 E1033859-N255829 E1035357-N255104 E1040049-N254816 E1040354-N243224 E1034430-N240630 E1024530-N235913 E1014722-N242515 E1013810-N242811 E1015114-N241250 E1021910-N242952 E1024044-N243808 E1024733-N242906 E1030258-N243953 E1032726	
Sector 5	ALT limit: 3000m or above
N242515 E1013810-N243724 E1013351-N250140 E1013147-N251937 E1015029-N250532 E1022655-N251904 E1024246-N251338 E1025907-N251024 E1025735-N250538 E1023946-N245515 E1024210-N245113	

E1023840-N245715 E1023017-N245113 E1022504-N244006 E1024412-N243808 E1024733-N242952 E1024044-N241250 E1021910-N242811 E1015114-N242515 E1013810	
Sector 6	ALT limit: 3300m or above
N251937 E1015029-N253052 E1020143-N254640 E1021812-N252927 E1030059-N253033 E1030535-N253944 E1031160-N253737 E1031645-N253258 E1031341-N252311 E1030716-N251949 E1030423-N251338 E1025907-N251904 E1024246-N250532 E1022655-N251937 E1015029	
Sector 7	ALT limit: 3500m or above
N254640 E1021812-N255818 E1023002-N253944 E1031160-N253033 E1030535-N252927 E1030059-N254640 E1021812	
Sector 8	ALT limit: 3600m or above
N253944 E1031160-N254657 E1031702-N260025 E1032042-N261532 E1033344-N261049 E1033859-N253737 E1031645-N253944 E1031160	
Sector 9	ALT limit: 3800m or above
N255818 E1023002-N260129 E1023317-N255728 E1024914-N255512 E1025805-N260025 E1032042-N254657 E1031702-N253944 E1031160-N255818 E1023002	
Sector 10	ALT limit: 4500m or above
N255728 E1024914-N260333 E1030119-N260760 E1030345-N260025 E1032042-N255512 E1025805-N255728 E1024914	
Sector 11	ALT limit: 4900m or above
N260129 E1023317-N260925 E1024125-N263003 E1031739-N261532 E1033344-N260025 E1032042-N260760 E1030345-N260333 E1030119-N255728 E1024914-N260129 E1023317	

5. 无线电通信失效程序

此程序为航空器无线电双向通信失效后，参见 AIP GEN3.4.5 中的仪表飞行规则航空器地空双向无线电通信失效通用程序处置后，选择至昆明长水机场着陆的补充程序。

5. Radio communication failure procedures

This procedure refer to the AIP GEN3.4.5 general procedures for aircraft under instrument flight rule with air-ground two-way radio communication failure.

5.1 无线电双向通信失效在昆明长水机场着陆飞行航径

5.1.1 已飞越起始进近定位点的航空器按标准进近程序自主领航着陆。

5.1.2 其他未飞越起始进近定位点的航空器保持管制员给定的最后一个指令高度，如此高度无法满足飞行过程中最低飞行高度要求，航空器驾驶员应按照最低飞行高度要求进行调整。当航空器处于昆明进近管制区内时，NIXAS、MEBNA、XISLI、DADOL、NODIB 方向的进、离场航空器直飞盘龙（XFA）导航台；LXI、ELASU、GULOT、P73 方向的进、离场航空器直飞晋宁（XSJ）导航台。

5.1.3 过盘龙（XFA）导航台后加入右转等待程序，出航航迹 040°，出航时间 2min，入航航迹 220°，下降高度到修正海压高度到 3900m 保持（如果低于 3900m，则立即上升到 3900m 保持；如需耗油应保持修正海压高度 4500m 盘旋），航空器驾驶员根据最后收到的通播就近选择着陆跑道，退出等待程序后飞向最近的起始进近定位点（IAF），按相应跑道的 ILS/DME y 标准仪表进近程序自主领航进近着陆。

5.1.4 过晋宁（XSJ）导航台后加入公布等待程序，下降高度到修正海压高度 4200m 保持（如果低于 4200m，则立即上升到 4200m 保持；如需耗油应保持

5.1 Radio communication totally failure landing flight path at Kunming Changshui Airport

5.1.1 The aircraft that has flown over the IAF shall conduct autonomous navigation and landing according to the standard approach procedure.

5.1.2 Other aircraft that have not crossed the IAF shall maintain the last command altitude given by the controller. If such altitude cannot meet the minimum flight altitude requirements during the flight, the aircraft pilot shall adjust altitude according to the minimum flight requirements. When within the Kunming APP, the aircraft APP/DEP from NIXAS, MEBNA, XISLI, DADOL, NODIB shall fly directly to the XFA; The aircraft APP/DEP from LXI, ELASU, GULOT, and P73 shall fly directly to the XSJ.

5.1.3 After over XFA, aircraft shall join the right-orbit holding pattern, outbound track 040°, outbound time 2 mins, inbound track 220°, descend and maintain QNH 3900m (If lower than 3900m, climb to 3900m immediately and maintain; If aircraft need consume fuel, keep circling at QNH 4500m). The aircraft pilot selects the landing runway according to ATIS, after exiting the holding pattern, fly to the nearest IAF and follow the ILS/DME y SIAP of the corresponding runway for auto navigation approach and landing.

5.1.4 After over XSJ, aircraft shall join the holding pattern, descend and maintain QNH 4200m (If lower than 4200m, climb to 4200m immediately and maintain;

修正海压高度 4500m 盘旋），航空器驾驶员根据最后收到的通播就近选择着陆跑道，退出等待程序后飞向最近的起始进近定位点（IAF），按相应跑道的 LS/DME y 标准仪表进近程序自主领航进近着陆。

If aircraft need consume fuel, keep circling at QNH 4500m). The aircraft pilot can select the landing runway according to ATIS, exits the holding pattern, and fly to the nearest IAF, follow the ILS/DME y SIAP for the corresponding runway for auto navigation approach and landing.

5.2 其他联系方式

5.2 Other contact information

5.2.1 航空器驾驶员可使用卫星电话或其他通信设备与昆明进近（电话：86-871-64620173）取得联系。

5.2.1 Aircraft pilots can use satellite phones or other communication devices to contact Kunming APP (Tel: 86-871-64620173).

5.2.2 如航空器驾驶员可以与航空公司运控部门取得联系，可通过运控部门与昆明进近（电话：86-871-64620173）取得联系。

5.2.2 If the aircraft pilot can contact AOC of the airlines, they can contact AOC and Kunmming APP (Tel: 86-871-64620173).

6. 目视飞行程序

6. Procedures for VFR flights

6.1 昆明管制区航路、进近和塔台管制范围（高度 6000m 及以下）内实施目视间隔和目视进近运行。

6.1 Visual separation is implemented within enroute of KUNMING control area(at and below 6000m). Visual separation and visual approach are put into use within KUNMING approach control area and tower control area(at and below 6000m).

6.2 实施中机组应注意：

6.2 The important instructions and advisory information for flight crew are as follows:

a） 进近管制员在首次联系时，将向机组通报预计目视进近和跑道，机组无异议即认为该机组接受目视进近。

a） The approach controller shall give estimated visual approach implementation and assigned RWY to the flight crew on the initial contact. No objection from flight crew is deemed acceptable.

b） 目视着陆跑道或目视前机后，应尽早报告管制员。

b） Flight crew shall report the preceding aircraft and/or the landing RWY to the controller as soon as they are/that is in sight.

c） 实施目视间隔时不得超越相邻跑道前机。

7. 目视飞行航线

无

8. 其它规定

无

ZPPP AD 2.23 其它资料

鸟情资料

1.1 全年有鸟类活动。机场当局采取了驱赶措施，以减少鸟群活动。

c） Under visual separation, the aircraft shall not overtake the preceding one which is using the adjacent RWY.

7. VFR route

Nil

8. Other regulations

Nil

ZPPP AD 2.23 Other information

Bird’s information

1.1 Activities of bird flocks are found all the year round. Aerodrome Authority resorts to dispersal methods to reduce bird activities.

Migratory Season	Area and Direction of activity	Flight height(m)	Characteristic
Spring (day)	In the airport	0-150	Group, all size
Spring (night)	Inside and outside flight area	0-150	Group, small and medium size
Summer (day)	In the airport	0-150	Group, small and medium size
Summer (night)	Inside and outside flight area	0-150	Group, small and medium size
Autumn (day)	Inside flight area	0-150	Group, small and medium size
Autumn (night)	outside flight area, migrate northwest to southeast	0-150	Group, small and medium size

Winter (day)	Inside and outside flight area	0-150	Group, all size
Winter (night)	outside flight area, migrate northwest to southeast	0-150	Group, all size

1.2 机场安装了四台激光驱鸟设备,扫射过程中有绿色激光束穿过跑道，扫射植草区，对飞行无影响，请机组注意。

1.2 Four laser bird dispersal equipment erected, emitting green laser light, cabin crew shall pay more attention.

Number	Location	Operation time
1	186m E of RWY04 CL, 700m N of THR04	10:50-00:05 (next day)
2	186m E of RWY04 CL, 2700m N of THR04	
3	181m W of RWY03 CL, 600m N of THR03	
4	181m W of RWY03 CL, 2600m N of THR03	