



ICAO

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**Fifteenth Meeting of the FANS Interoperability Team – Asia
(FIT-Asia/15)**

Bangkok, Thailand, 24– 27 June 2025

Agenda Item 4: Review of ADS/CPDLC Operations and Performance

DATA LINK PERFORMANCE REPORT FOR CHINA

(Presented by China)

SUMMARY

This paper presents data link performance data for 2024 for the Lanzhou FIR and Urumqi FIR, and information on actions taken to identify and rectify the causes of performance issues.

1. INTRODUCTION

1.1 **Tables 1 to 8** summarize Automatic Dependent Surveillance – Contract (ADS-C) and Controller-Pilot Data Link Communications (CPDLC) performance where the Required Surveillance Performance (RSP) and Required Communications Performance (RCP) criteria stipulated in ICAO Doc 4444 – Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) were not met. Actions taken to address performance not meeting the criteria are discussed, together with the outcomes of such actions.

1.2 ADS-C and CPDLC operation is applied in the routes L888 (SANLI-XKC), Y1 and Y2, operated by Lanzhou Air Control Center (ACC) and Urumqi ACC. The data link performances in the routes were measured against the RCP 240 and RSP 180 specifications for PBCS operations.

1.3 This report provides observed performance of the operational data link systems for the above-mentioned data link routes, collected from Lanzhou and Urumqi FIR for the period from Jan. 2024 to Dec. 2024.

2. DISCUSSION

Lanzhou FIR ADS-C RSP180 Performance – Media Type, RGS and GES

2.1 Table 1 outlines overall ADS-C performance per media type, Remote Ground Station (RGS) and Ground Earth Station (GES) for downlinks sent within the Lanzhou FIR during 2024, where surveillance performance meets an acceptable level. The message count for the second half was larger than that of the first half. SATCOM and VHF met 95% requirements. As for 99.84%, it can be seen that majority of deliveries are completed within the time requirements, while a number of stations show lower performance. HF communication failed all requirements.

2.2 IG and EUA1 performances are low. But EUA1 data points from 2025 show compliant results.

Table 1: Lanzhou FIR ADS-C Downlink Latency per Media Type, RGS and GES

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%	
		% <=	% <=		% <=	% <=	
		90sec	180sec		90sec	180sec	
By Media Type							
VHF		190957	99.26	99.68	190684	99.27	99.69
SATCOM		140368	96.75	99.33	121580	96.87	99.41
HF		12	25	50	12	25	33.33
ALL		331337	98.1	99.5	312276	98.3	99.5
By Remote Ground Station (RGS) Ground Earth Station (GES)							
Designator	Type	(only RGS/GES with message counts >100 recorded)					
APK1	SAT	53114	98.48	99.71	47325	98.41	99.75
IOR5	SAT	22684	98.31	99.62	17416	98.24	99.69
GOQ	VHF	17310	99.53	99.71	15606	99.64	99.73
XXA	SAT	11576	97.78	99.80	13749	97.26	99.67
IGW1	SAT	11552	91.95	96.50	10495	93.61	97.24
IG1	SAT	11390	90.64	98.77	9693	90.56	98.88
XXI	SAT	10578	97.46	99.68	7161	98.19	99.83
EUA1	SAT	9708	93.60	99.34	8193	93.77	99.13
TFU	VHF	8638	98.95	99.65	7921	99.16	99.77
LHW	VHF	8246	98.24	99.26	6896	98.3	99.21
XXF	SAT	7225	98.43	99.91	7073	98.04	99.71
HMI	VHF	5332	99.68	99.84	4021	99.92	99.95
KRL	VHF	5266	99.71	99.81	5099	99.84	99.86
CKG	VHF	4620	99.11	99.76	3833	99.5	99.86
JGN	VHF	4468	99.73	99.86	3462	99.65	99.94
GYD1	VHF	4377	99.47	99.79	4543	99.47	99.86
TFUV	VHF	4112	99.70	99.85	6727	99.85	99.92
ASB1	VHF	3944	99.59	99.89	4460	99.68	99.88
HKGV	VHF	3526	99.65	99.94	4580	99.67	99.84
CAN	VHF	3068	98.89	99.70	3022	99.23	99.90
CTU	VHF	2806	98.85	99.50	2176	99.21	99.72
CIT1	VHF	2689	99.66	99.88	3031	99.57	99.80
TAS1	VHF	2582	99.57	99.84	2564	99.84	99.92
SZX	VHF	2520	99.28	99.88	3110	99	99.67
NNG	VHF	2381	99.58	99.91	2633	98.17	99.54

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
HKG8	VHF	2329	99.05	99.61	3055	99.9	99.96
BXH1	VHF	2084	99.23	99.56	1494	99.19	99.59
TZX7	VHF	2024	99.80	99.90	1384	99.78	99.92
KXX1	VHF	1911	99.11	99.68	1129	99.2	99.91
HKG7	VHF	1869	99.62	100.00	1988	99.74	99.94
KZO1	VHF	1864	98.71	99.30	1649	99.51	99.93
KRLV	VHF	1720	100.00	100.00	3408	99.97	100.00
ALA1	VHF	1686	99.05	99.70	1844	99.67	99.89
SCO1	VHF	1683	99.34	99.76	1076	99.34	99.90
URC	VHF	1593	99.68	99.87	1405	99.71	99.92
TCG	VHF	1507	99.33	99.80	1318	99.31	99.84
SZF	VHF	1504	99.80	99.80	1619	99.32	99.75
JGNV	VHF	1484	98.98	99.93	1506	99.07	100.00
KWL	VHF	1467	99.38	99.79	1262	99.52	99.92
DZN1	VHF	1464	99.24	99.79	945	99.04	99.78
HMIV	VHF	1444	100.00	100.00	1547	99.87	99.93
MFM	VHF	1431	99.30	99.86	1259	99.2	99.76
APK2	SAT	1405	94.59	98.57			
KWE	VHF	1388	99.06	100.00	1389	98.84	99.56
SZF7	VHF	1358	99.55	99.63	909	99.44	99.55
HKG2	VHF	1340	97.98	99.10	1094	97.71	98.53
ZUHV	VHF	1336	98.80	100.00	1479	98.78	100.00
KZO	VHF	1264	99.76	99.76	1480	99.79	100.00
HKG	VHF	1225	99.91	99.91	1295	98.99	99.38
DNH	VHF	1173	99.40	99.91	895	98.43	98.88
AVK	VHF	1134	100.00	100.00	1345	99.47	99.62
XXP	SAT	1130	96.19	99.55	475	97.47	99.15
INC	VHF	1046	99.90	99.90	947	99.68	99.89
GYS	VHF	1030	97.37	99.12	680	98.38	99.41
DNHV	VHF	1020	99.90	100.00	1133	99.55	100.00
LHWV	VHF	943	99.78	100.00	1595	99.81	99.93
NNGV	VHF	941	99.78	100.00	2213	99	99.95
BFJV	VHF	935	100.00	100.00	1702	100	100.00
HET	VHF	891	99.66	99.88	753	99.86	100.00

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
BPL	VHF	834	99.76	99.88	422	96.91	100.00
DEBT	VHF	829	99.15	99.27	688	99.56	99.70
TBS	VHF	789	98.47	99.74	866	99.3	99.76
YBP	VHF	788	98.85	99.87	708	99.43	100.00
PEK	VHF	707	99.85	99.85	573	100	100.00
KJH	VHF	699	99.42	100.00	305	97.04	99.01
CTUV	VHF	689	99.70	100.00	1064	100	100.00
TBS1	VHF	681	98.97	100.00	490	98.97	100.00
BTST	VHF	651	99.69	99.69	520	99.8	99.80
BUD	VHF	624	99.83	100.00	481	100	100.00
SZXV	VHF	612	98.36	99.83	721	99.3	100.00
ESB	VHF	608	99.67	99.67	516	98.64	99.03
TSN	VHF	595	100.00	100.00	557	100	100.00
BOJ	VHF	591	98.30	98.30	507	99.01	99.21
TAS	VHF	587	100.00	100.00	1154	100	100.00
YIN	VHF	580	99.31	99.65	462	99.78	100.00
GUW1	VHF	578	99.30	100.00	303	98.67	99.00
KJHV	VHF	576	100.00	100.00	112	98.21	100.00
AAT	VHF	541	99.26	99.81	283	99.64	100.00
ZHAV	VHF	536	99.25	99.62	854	99.18	100.00
PKX	VHF	535	100.00	100.00	606	99.83	100.00
BAVV	VHF	527	100.00	100.00	542	99.63	100.00
BFJ	VHF	517	99.61	100.00	546	99.08	99.45
CANV	VHF	514	99.61	100.00	581	99.82	100.00
KWLV	VHF	509	99.60	100.00	865	99.53	100.00
ZHA	VHF	508	99.40	99.80	483	98.55	99.37
BOJV	VHF	502	96.21	97.01	635	96.22	96.22
CKGV	VHF	485	99.79	100.00	983	100	100.00
HKG1	VHF	483	96.06	96.68	379	94.19	96.04
BAV	VHF	478	99.37	99.37	335	99.4	99.70
IST8	VHF	470	98.51	99.14	507	95.26	97.04
NQZ1	VHF	463	99.13	99.56	160	98.12	100.00
ERZ	VHF	461	99.78	100.00	445	100	100.00

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
ZUH	VHF	461	98.69	99.78	441	99.09	99.54
ESB7	VHF	435	96.09	98.16	370	96.21	97.56
OTP7	VHF	424	99.29	99.52	363	98.34	98.62
TSRV	VHF	416	99.51	99.51	471	99.36	99.36
ICN	VHF	409	98.28	99.51	761	98.94	100.00
LNZT	VHF	404	99.50	99.75	313	98.4	99.04
ICNV	VHF	404	100.00	100.00	397	100	100.00
VAR7	VHF	404	97.52	97.77	353	98.58	98.86
IST7	VHF	398	87.93	95.72	249	88.75	91.56
BEG	VHF	394	99.49	99.49	300	99.66	99.66
TLQ	VHF	383	100.00	100.00	845	99.88	100.00
TPE	VHF	383	99.73	100.00	354	99.71	99.71
BRU	VHF	377	100.00	100.00	477	100	100.00
TZX	VHF	375	98.93	99.73	353	99.71	100.00
MUCV	VHF	370	99.45	99.45	390	99.74	99.74
ESBV	VHF	360	99.16	99.44	453	98.45	98.45
TSR1	VHF	358	97.48	97.48	346	99.13	99.42
TAO	VHF	355	100.00	100.00	345	99.42	100.00
FRAV	VHF	352	100.00	100.00	572	99.3	99.30
ALA	VHF	352	99.71	100.00	200	99	99.00
DSNV	VHF	341	99.70	100.00	283	100	100.00
TWCV	VHF	338	100.00	100.00	629	100	100.00
JZH	VHF	332	98.49	99.09	328	96.95	99.08
HAK	VHF	332	99.69	100.00	543	99.26	100.00
ISTS	VHF	329	95.74	98.78	155	94.19	96.77
DXBV	VHF	328	99.69	100.00	314	98.72	100.00
LEJ7	VHF	328	99.69	99.69	265	99.24	100.00
SJW	VHF	325	100.00	100.00	362	100	100.00
PRG	VHF	324	100.00	100.00	242	100	100.00
DATV	VHF	324	100.00	100.00	361	100	100.00
KCA	VHF	321	99.37	100.00	345	99.71	100.00
SZF1	VHF	319	96.55	99.68	398	97.73	99.49
TWC	VHF	319	100.00	100.00	220	99.54	100.00

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
KRY	VHF	317	99.68	100.00	101	100	100.00
XNN	VHF	316	100.00	100.00	291	99.65	100.00
PVG	VHF	313	100.00	100.00	215	99.53	100.00
AKU	VHF	312	100.00	100.00	381	100	100.00
VIE	VHF	302	99.66	100.00	230	99.56	99.56
MCT	VHF	297	99.66	100.00	401	100	100.00
SEL	VHF	295	98.64	99.66			
FRAT	VHF	288	100.00	100.00	174	100	100.00
APK2	VHF	286	98.60	99.65	1042	92.8	96.73
OTPV	VHF	284	97.88	97.88	309	99.02	99.35
KHH1	VHF	284	99.64	100.00	215	100	100.00
BPLV	VHF	281	100.00	100.00	383	97.38	100.00
DSN	VHF	279	100.00	100.00	255	99.6	100.00
ISTW	VHF	276	100.00	100.00			
EVN1	VHF	271	98.89	100.00	335	99.4	100.00
VAR	VHF	267	98.12	98.50	357	97.47	98.59
BUDV	VHF	263	99.23	99.23	309	99.67	99.67
PVGV	VHF	256	100.00	100.00	287	100	100.00
MUCT	VHF	249	100.00	100.00	125	96	96.80
IFN1	VHF	244	97.95	98.36			
ESB1	VHF	242	97.93	99.17	218	100	100.00
VIEV	VHF	237	99.15	99.15	294	99.65	99.65
MUX1	VHF	234	99.57	100.00	304	98.02	99.01
MUC	VHF	233	100.00	100.00	152	100	100.00
TBSV	VHF	226	99.55	100.00	239	99.58	100.00
MHD1	VHF	225	98.66	99.55			
LGGV	VHF	222	100.00	100.00	112	98.21	98.21
DAT	VHF	216	100.00	100.00	245	100	100.00
OTP	VHF	215	99.06	99.06	177	100	100.00
DRST	VHF	214	99.53	99.53	179	99.44	99.44
PKXV	VHF	210	100.00	100.00	198	100	100.00
TZX1	VHF	207	99.51	100.00	173	97.68	100.00
AMS1	VHF	203	97.04	98.52	249	96.78	99.59

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
ZQZ	VHF	200	100.00	100.00	182	99.45	100.00
FRA	VHF	199	99.49	100.00	212	100	100.00
ICN2	VHF	194	99.48	99.48			
TSR	VHF	189	99.47	99.47	106	100	100.00
TPE7	VHF	186	99.46	100.00	137	100	100.00
KHH	VHF	184	95.65	99.45	175	99.42	100.00
CLJ1	VHF	183	98.36	98.90	207	95.16	97.10
HUZ	VHF	177	98.87	99.43	240	99.58	100.00
CND7	VHF	176	95.45	95.45	119	99.15	99.15
NRT1	VHF	173	100.00	100.00	130	100	100.00
USN	VHF	172	98.83	99.41			
KRYV	VHF	167	100.00	100.00			
ISTV	VHF	164	98.78	98.78	258	93.41	93.79
DXB	VHF	160	99.37	100.00			
TMJ1	VHF	156	98.07	100.00	141	100	100.00
KHG	VHF	155	100.00	100.00	127	100	100.00
VAR1	VHF	153	93.46	93.46	147	96.59	97.27
HETV	VHF	153	100.00	100.00	166	100	100.00
UNR	VHF	152	100.00	100.00	212	99.52	100.00
AMXS	VHF	150	100.00	100.00	302	99.66	99.66
OTP1	VHF	147	97.27	98.63	141	98.58	98.58
PEKV	VHF	144	100.00	100.00	156	100	100.00
LHRV	VHF	144	99.30	99.30	112	99.1	100.00
BUS1	VHF	143	99.30	100.00	248	97.58	99.19
SAW	VHF	141	99.29	99.29			
SLL	VHF	140	100.00	100.00			
HND1	VHF	139	99.28	99.28			
DTM1	VHF	139	99.28	99.28	124	100	100.00
NRTV	VHF	136	100.00	100.00	143	99.3	100.00
ZYI	VHF	134	98.50	99.25	125	99.2	100.00
BOJ7	VHF	134	96.26	96.26	113	96.46	97.34
CLJ7	VHF	131	99.23	99.23	113	98.23	98.23
VAS7	VHF	131	98.47	99.23			

FIR		ZLLL					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
TNA	VHF	128	100.00	100.00	131	99.23	100.00
HNDV	VHF	127	100.00	100.00			
ISL	VHF	127	98.42	98.42	160	98.75	98.75
TPE8	VHF	126	100.00	100.00	154	100	100.00
GMP1	VHF	124	100.00	100.00			
YNTV	VHF	122	100.00	100.00	102	100	100.00
DOH2	VHF	118	100.00	100.00			
TLV	VHF	115	100.00	100.00	187	100	100.00
AMS5	VHF	113	99.11	100.00	162	99.38	100.00
CND1	VHF	113	96.46	96.46	147	95.23	98.63
FMOT	VHF	112	100.00	100.00	190	98.94	100.00
LGG	VHF	111	99.09	99.09			
MWX	VHF	110	97.27	100.00			
FRAW	VHF	108	100.00	100.00			
ADD	VHF	108	100.00	100.00			
SYZ1	VHF	105	100.00	100.00			
PUS1	VHF	104	99.03	99.03			
AMM	VHF	104	100.00	100.00			
SXR1	VHF	101	100.00	100.00	123	97.56	98.37

Lanzhou FIR ADS-C RSP180 Performance – Aircraft Operator/Type

2.3 **Table 2** summarizes overall ADS-C performance per Aircraft Operator/Type for downlinks sent within the Lanzhou FIR during 2022, where performance did not meet the RSP180 performance criteria. For most operators/types, the 95% requirement was achieved, only a couple of operators/types failed. For the 99.84% requirements, several operators failed to meet in both half of the year.

Table 2: Lanzhou FIR ADS-C Downlink Latency per Aircraft Operator/Type

FIR	ZLLL					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
		By Aircraft Operator / Type (only message counts >100 recorded)				
CPA/B77W	50657	97.29	99.42	42922	97.64	99.57
CLX/B748	26897	99.35	99.92	26881	99.43	99.95
KLM/B772	16865	96.04	99.56	14969	95.97	99.69
BOX/B77L	14461	98.35	99.38	10877	98.6	99.68
THY/B77W	12422	98.69	99.71	4407	98.66	99.31
CLX/B744	12211	95.95	98.56	9303	96.22	98.51
THY/A332	12086	99.76	99.86	8457	99.68	99.85
FDX/B77L	12031	96.43	98.84	9268	96.49	98.96
KLM/B789	11026	98.65	99.57	13136	98.75	99.64
AZG/B748	10601	99.68	99.97	10452	99.59	99.89
DLH/A346	7807	98.91	99.84	17502	98.29	99.57
CPA/A359	7113	99.8	99.95	15171	99.81	99.91
QTR/B77W	6679	97.73	99.32	4631	93.97	96.89
CRK/A332	6433	99.84	99.96	8651	99.49	99.72
CPA/B748	5963	98.94	99.88	5479	98.57	99.76
IGA/GL5T	5817	99.26	99.98	6234	99.45	99.98
UAE/A388	5407	99.94	99.96	5027	100.00	100.00
UAE/B773	5167	98.45	99.80	5164	98.48	99.84
ICV/B744	5106	92.22	95.96	4936	95.6	97.69
FIN/A359	4489	99.91	99.97	5762	99.65	99.79
ETH/B777	4325	98.56	99.67	2875	97.35	99.23
TYR/CRJ1	4291	98.06	99.95			
BAW/B789	4105	99.07	99.63	3776	98.86	99.70
VIR/B789	3864	99.30	99.84	1196	98.74	99.83
QTR/B77L	3534	98.52	99.80	3563	98.90	99.71
CAL/B77W	3460	98.12	99.62			
UPS/B744	3385	98.46	99.61	4993	98.89	99.75
DLH/B748	3098	98.99	99.80	2422	98.72	99.79
KAL/B748	3005	98.93	99.80	2318	98.92	99.95
ETH/B788	2972	99.83	99.93	2179	99.58	99.90
IGA/A320	2895	97.58	98.92	4412	99.50	100.00

FIR	ZLLL					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key  Meets Criteria  99.0%-99.84%  Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
KAL/B77W	2796	98.46	99.89	1108	98.91	100.00
RUN/B744	2667	97.97	99.17	430	99.30	100.00
GEC/B77L	2298	98.65	99.86	4142	98.52	99.92
ICL/B744	1965	99.64	99.84	6333	99.68	99.96
CPA/B744	1911	99.05	99.79	1976	98.73	99.94
DLH/A359	1845	99.67	99.78	1232	99.83	100.00
AFR/B77W	1753	98.23	99.65	1712	97.13	99.41
DLH/A343	1704	99.23	99.94	1951	99.58	99.89
KAL/A332	1620	98.14	100.00	147	99.31	100.00
ETH/B772	1590	99.05	100.00	1263	98.65	99.60
AZG/B744	1588	91.93	96.15	1223	90.02	95.91
GTI/B744	1569	96.62	99.10	2675	97.15	99.40
HKC/A332	1552	99.87	100.00	2043	99.85	100.00
HVN/B789	1487	99.52	100.00	163	99.38	100.00
ETD/B789	1460	98.9	99.79	940	99.57	99.78
DLH/B744	1379	98.4	99.78	1580	97.15	98.98
PAC/B748	1287	98.52	99.22	479	98.95	100.00
CLH/A346	1144	99.38	100.00	1953	99.12	99.84
BAW/B772	1079	99.35	99.72	2480	98.91	99.75
KLM/B77W	1032	97.96	99.32	2157	97.17	99.39
EVA/B77W	1028	99.51	99.90			
AFR/B772	957	98.53	99.68	913	98.68	100.00
CAL/A359	956	99.89	100.00			
KAL/B77L	918	97.82	99.23	437	98.16	100.00
CPA/B773	846	94.68	98.69	755	97.74	99.86
UAE/B772	796	98.49	100.00	446	97.3	99.55
BAW/B788	795	99.37	99.87	155	98.7	100.00
GTI/B748	752	98.8	99.86	910	98.24	99.23
CES/A319	746	95.44	100.00	650	95.53	99.84
AUA/B772	746	98.92	99.86	1188	99.32	99.57
AAR/A333	728	99.86	99.86	768	99.47	99.47
CLH/A343	648	99.07	99.84	677	99.7	100.00
VJT/GLEX	579	97.06	99.82	667	98.2	99.55

FIR	ZLLL					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key  Meets Criteria  99.0%-99.84%  Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
UZB/B763	567	97.7	99.64	101	99	99.00
PAC/B744	466	97.21	99.35	1139	95.96	98.59
AAI/B744	387	89.14	92.50	440	95.22	97.27
AAR/B744	366	98.63	99.18	174	97.7	99.42
MSR/B773	331	99.39	100.00			
CKS/B744	314	99.68	100.00	217	100	100.00
QTR/A359	314	98.72	98.72	1855	99.56	99.89
ETH/A359	273	100	100.00	182	100	100.00
IGA/GLF6	269	98.88	100.00	296	98.31	100.00
SWU/B77W	254	98.81	100.00	536	97.94	99.62
WGT/FA8X	244	99.18	100.00	109	100	100.00
LOT/B788	239	98.32	99.58			
SWR/A343	233	99.57	100.00	123	100	100.00
ANA/B789	225	99.55	100.00			
BAW/B77W	221	97.28	98.64			
DHK/B763	210	96.66	99.04			
KAL/B772	207	98.55	100.00	933	98.07	99.46
UZB/B788	182	100	100.00			
BEC/A332	178	100	100.00			
AAR/B772	175	90.28	99.42	181	93.92	99.44
PJS/GLF6	143	100	100.00	111	100	100.00
NCR/B744	126	100	100.00	201	97.01	99.50
IGA/GLEX	122	100	100.00			
AIC/B788	121	99.17	100.00			
NCA/B748	114	99.12	99.12			
ETD/B773	109	100	100.00	224	97.76	99.10
PIA/B77L	106	100	100.00			
QQE/A319				182	100	100.00
QTR/A332				198	98.48	98.98
CKS/B742				402	99.25	100.00
SVW/GLF6				120	100	100.00
IGA/CL60				116	97.41	99.13
MMD/FA7X				112	98.21	98.21

FIR	ZLLL					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key  Meets Criteria  99.0%-99.84%  Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
ABD/B744				247	95.14	95.95
UAE/B77L				106	94.33	100.00
AAR/A388				313	100	100.00
KAL/B773				123	99.18	100.00
CCA/A333				120	98.33	100.00
NJE/GLEX				120	99.16	100.00
KLM/B744				897	96.32	98.43
AFR/B789				107	97.19	97.19
UAE/B77W				161	96.27	99.37
CKS/B741				102	99.01	100.00

Lanzhou FIR CPDLC RCP240 Performance – Media Type, RGS and GES

2.4 **Tables 3A and 3B** summarize overall CPDLC performance per Media Type, RGS and GES for messages sent within the Lanzhou FIR during 2024, where performance did not meet the RCP240 performance criteria. VS communication met the ACTP 95% requirement, which shows an improvement compared to last year. HS communication (with 2 message count) didn't meet the 95% and 99.84% requirement in the last half of the year.

Table 3A: Lanzhou FIR CPDLC Performance Latency per Media Type, RGS and GES – Jan-Jun 2024.

FIR	ZLLL				
Criteria	RCP240				
Period	Jan-Jun 2024				
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark	
		ACP	ACTP	ACP	ACTP
		% <=	% <=	% <=	% <=
		180sec	120sec	210sec	150sec
By Media Type					
SAT	1548	98.51	99.54	98.9	99.67
VHF	515	99.02	100	99.22	100
SV	54	94.44	98.14	94.44	98.14
VS	45	91.11	100	93.33	100
HS	2	100	100	100	100
ALL	2164	98.38	99.12	98.75	99.63

FIR		ZLLL				
Criteria		RCP240				
Period		Jan-Jun 2024				
<u>Colour Key</u> Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark		
		ACP	ACTP	ACP	ACTP	
		% <=	% <=	% <=	% <=	
		180sec	120sec	210sec	150sec	
By Remote Ground Station (RGS) Ground Earth Station (GES)						
Designator	Type	(RGS/GES with message counts >100)				
APK1	SAT	793	98.48	99.24	98.73	99.62
LHW	VHF	410	99.51	100	99.75	100
IOR5	SAT	321	99.68	99.68	99.68	100
XXA	SAT	156	99.35	100	99.35	100
XXI	SAT	126	99.2	98.41	100	100
IGW1	SAT	114	93.85	96.49	95.61	98.24

Table 3B: Lanzhou FIR CPDLC Performance Latency per Media Type, RGS and GES – Jul-Dec 2024.

FIR		ZLLL				
Criteria		RCP240				
Period		Jul-Dec 2024				
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark		
		ACP	ACTP	ACP	ACTP	
		% < =	% <=	% < =	% <=	
		180sec	120sec	210sec	150sec	
By Media Type						
SAT	1592	98.55	99.05	98.99	99.56	
VHF	647	98.76	99.22	98.91	99.22	
SV	103	96.11	100	96.11	100	
VS	41	95.12	97.56	95.12	100	
HS	6	83.33	33.33	83.33	33.33	
ALL	2389	98.40	98.15	98.74	98.95	
By Remote Ground Station (RGS) Ground Earth Station (GES)						
Designator	Type	(RGS/GES with message counts >100)				
APK1	SAT	874	98.74	98.85	99.08	99.77
IOR5	SAT	156	100.00	100.00	100.00	100.00
XXA	SAT	320	98.75	98.12	99.06	99.06
LHW	VHF	529	99.43	99.05	99.62	99.05

Lanzhou FIR CPDLC RCP240 Performance – Aircraft Operator/Type

2.5 **Tables 4A and 4B** summarize overall CPDLC performance per Aircraft Operator/Type for messages sent within the Lanzhou FIR during 2024, where performance did not meet the RCP240 performance criteria. Only 3 operators' message count was above 100 during the whole year, and the performance was good in the most requirement.

Table 4A: Lanzhou FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-Jun 2024

FIR	ZLLL					
Criteria	RCP240					
Period	Jan - Jun 2024					
<u>Colour Key</u> Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <=	% <=	% <=	% <=	%<
		180sec	120sec	210sec	150sec	60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
CLX/B748	226	100.00	100.00	100.00	100.00	100.00
CPA/B77W	213	98.12	98.12	98.59	99.06	96.71
BOX/B77L	102	99.01	100.00	99.01	100.00	97.05

Table 4B: Lanzhou FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-Jun 2024

FIR	ZLLL					
Criteria	RCP240					
Period	Jul - Dec 2024					
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <=	% <=	% <=	% <=	%<
		180sec	120sec	210sec	150sec	60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
CPA/B77W	231	96.96	98.70	97.40	99.56	96.53
CLX/B748	130	100.00	100.00	100.00	100.00	99.23

Urumqi FIR ADS-C RSP180 Performance – Media Type, RGS and GES

2.6 **Table 5** summarizes overall ADS-C performance per media type, Remote Ground Station (RGS) and Ground Earth Station (GES) for downlinks sent within the Urumqi FIR during 2024, where performance did not meet the RSP180 performance criteria.

Table 5: Urumqi FIR ADS-C Downlink Latency per Media Type, RGS and GES

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%	
		% <=	% <=		% <=	% <=	
		90sec	180sec		90sec	180sec	
By Media Type							
VHF		124896	99.36	99.7	98761	99.32	99.69
SATCOM		85380	97.02	99.37	56689	96.86	99.36
HF		7	42.85	42.85	12	16.66	66.66
ALL		210283	98.4	99.5	155462	98.4	99.5
By Remote Ground Station (RGS) Ground Earth Station (GES)							
Designator	Type	(only RGS/GES with message counts >100 recorded)					
APK1	SAT	30060	98.60	99.80	20625	98.3	99.79
IOR5	SAT	12374	98.57	99.65	6683	97.72	99.34
XXI	SAT	8237	97.86	99.76	5666	97.84	99.69
IG1	SAT	8052	92.87	98.85	5275	92.47	99.05
EUA1	SAT	7796	95.20	99.51	4298	94.95	99.48
XXA	SAT	6285	97.10	99.64	6224	97.12	99.61
IGW1	SAT	6257	91.88	96.19	3992	92.66	96.29
HMI	VHF	6065	99.65	99.80	3221	99.78	99.87
KRL	VHF	5620	99.62	99.80	4570	99.54	99.78
GOQ	VHF	5135	99.27	99.47	5378	99.42	99.60
XXF	SAT	4446	98.20	99.75	3599	98.36	99.61
LHW	VHF	3383	98.43	99.14	2748	98.1	98.90
TFU	VHF	2898	98.68	99.48	2579	99.34	99.84
URC	VHF	2531	99.60	99.68	1647	99.57	99.87
JGN	VHF	2397	99.41	99.91	1521	99.93	99.93
GYD1	VHF	2272	99.20	99.55	1514	99.6	99.86
ALA1	VHF	2250	99.60	99.91	1392	99.56	99.85
ASB1	VHF	2150	99.44	100.00	1465	99.65	99.86
AKU	VHF	1953	99.59	99.69	1645	99.93	99.93
CKG	VHF	1879	98.72	99.73	1355	99.48	99.77
HKGV	VHF	1878	99.84	100.00	1933	99.43	99.68
KRLV	VHF	1641	99.81	99.81	2712	99.85	99.92
TCG	VHF	1562	99.61	99.80	946	99.26	99.78
HMIV	VHF	1403	99.92	100.00	1269	99.68	99.76

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
CAN	VHF	1402	98.78	99.35	1184	98.73	99.57
TAS1	VHF	1375	99.85	99.92	775	99.87	100.00
BXH1	VHF	1373	99.63	100.00	769	99.21	99.86
BPL	VHF	1362	99.48	99.77	515	99.22	99.41
TFUV	VHF	1336	99.55	99.70	2071	99.71	99.85
HET	VHF	1323	100.00	100.00	889	100	100.00
PEK	VHF	1303	99.84	99.92	907	100	100.00
CIT1	VHF	1279	99.29	99.68	980	99.48	99.79
INC	VHF	1247	99.75	100.00	1029	99.7	99.70
TWC	VHF	1246	99.75	99.75	713	99.57	99.85
NNG	VHF	1210	99.66	99.83	1127	97.95	99.02
TWCV	VHF	1137	100.00	100.00	1720	99.94	99.94
JGNV	VHF	1120	97.05	99.82	940	96.7	99.68
APK2	SAT	1110	97.29	99.36			
SZX	VHF	1095	99.36	99.72	1176	99.06	99.65
HKG8	VHF	1082	99.72	99.90	1209	99.83	99.91
TZX7	VHF	1066	100.00	100.00	538	99.81	99.81
KXX1	VHF	1037	99.22	99.51	460	99.78	100.00
KZO1	VHF	1009	99.30	99.90	579	99.3	100.00
SZF	VHF	1007	99.80	99.90	668	99.4	99.85
CTU	VHF	996	99.29	99.79	744	99.19	99.59
HKG7	VHF	955	99.89	100.00	747	99.46	100.00
TSN	VHF	954	100.00	100.00	687	100	100.00
SCO1	VHF	932	99.67	100.00	450	100	100.00
KHG	VHF	888	99.43	99.77	716	99.44	99.72
PKX	VHF	877	99.88	99.88	706	99.71	100.00
DZN1	VHF	850	100.00	100.00	385	98.96	99.74
DNH	VHF	842	99.76	99.88	496	98.99	99.59
AAT	VHF	834	99.52	99.88	294	99.65	100.00
KWL	VHF	820	99.26	99.75	530	99.62	99.81
HKG	VHF	789	99.74	99.74	600	98.83	99.16
KZO	VHF	772	99.61	99.61	635	99.68	100.00
XXP	SAT	763	96.98	99.60	327	97.24	99.69

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
ICN	VHF	727	98.21	98.76	784	99.1	99.61
SZF7	VHF	697	99.42	99.71	371	99.46	99.46
DNHV	VHF	691	100.00	100.00	751	99.33	99.73
KWE	VHF	675	99.40	99.85	572	98.95	99.65
KCA	VHF	654	99.69	99.84	509	100	100.00
AVK	VHF	586	99.65	100.00	723	100	100.00
BAVV	VHF	586	99.48	99.65	566	100	100.00
TLQ	VHF	576	99.65	99.65	886	99.88	99.88
ZUHV	VHF	569	98.94	100.00	524	97.9	100.00
YIN	VHF	548	99.63	99.81	327	99.69	99.69
TAO	VHF	543	100.00	100.00	398	99.74	100.00
MFM	VHF	531	99.62	99.62	415	98.79	99.51
TBS	VHF	525	98.85	100.00	348	98.85	99.42
BAV	VHF	522	99.80	99.80	209	100	100.00
HKG2	VHF	491	97.35	98.37	331	96.07	97.58
NNGV	VHF	490	99.59	100.00	948	98.83	99.68
BPLV	VHF	485	99.58	100.00	445	99.55	100.00
BUD	VHF	462	99.13	99.56	205	100	100.00
SEL	VHF	461	98.91	100.00			
BOJ	VHF	460	98.26	98.26	207	99.03	99.51
KRY	VHF	459	99.56	99.78			
DEBT	VHF	453	100.00	100.00	249	99.59	99.59
SJW	VHF	446	99.77	99.77	417	100	100.00
AKUV	VHF	442	99.77	99.77	676	100	100.00
PVG	VHF	437	100.00	100.00	324	100	100.00
ICNV	VHF	435	100.00	100.00	434	99.76	99.76
BFJV	VHF	432	99.76	100.00	659	99.69	99.69
PVG	VHF	412	99.75	100.00	225	100	100.00
ESB	VHF	407	99.50	99.50	194	100	100.00
DAT	VHF	392	100.00	100.00	260	100	100.00
DATV	VHF	389	100.00	100.00	464	100	100.00
ALA	VHF	373	100.00	100.00	218	100	100.00
TBS1	VHF	367	98.91	100.00	191	96.85	98.95

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
BEG	VHF	349	99.42	99.42	142	99.29	99.29
KJH	VHF	339	99.70	99.70	108	98.14	99.07
BTST	VHF	335	99.70	100.00	192	99.47	100.00
ZQZ	VHF	328	100.00	100.00	206	100	100.00
DSNV	VHF	322	100.00	100.00	291	100	100.00
GYS	VHF	322	95.34	98.44	193	97.92	99.48
GUW1	VHF	321	99.06	100.00	145	98.62	100.00
TAS	VHF	316	100.00	100.00	474	99.78	100.00
SZXV	VHF	311	99.03	99.35	305	99.34	100.00
YBP	VHF	306	98.36	99.67	207	99.03	99.03
ICN2	VHF	306	100.00	100.00			
BRU	VHF	303	100.00	100.00	253	99.6	100.00
ERZ	VHF	293	100.00	100.00	147	97.95	100.00
DXBV	VHF	286	99.65	100.00	195	100	100.00
PKXV	VHF	283	100.00	100.00	224	100	100.00
TZX	VHF	279	97.84	99.64	152	100	100.00
ZHAV	VHF	277	99.63	100.00	357	99.15	99.71
LHWV	VHF	277	100.00	100.00	402	99.5	99.50
CTUV	VHF	275	99.63	100.00	342	100	100.00
BFJ	VHF	268	99.25	99.62	217	99.53	100.00
KWLV	VHF	266	99.62	100.00	337	99.4	100.00
CANV	VHF	264	99.24	99.62	230	98.26	99.56
PRG	VHF	260	99.61	100.00	103	100	100.00
KJHV	VHF	260	100.00	100.00			
HKG1	VHF	260	95.00	95.76	144	95.83	96.52
NQZ1	VHF	257	98.83	98.83			
NRT1	VHF	248	99.19	99.19	128	100	100.00
ZHA	VHF	246	99.18	100.00	208	100	100.00
OTP7	VHF	239	99.16	99.16	159	99.37	99.37
IST8	VHF	237	97.46	98.31	195	98.46	98.97
BOJV	VHF	235	97.87	97.87	256	96.09	96.09
USN	VHF	230	100.00	100.00			
DSN	VHF	230	100.00	100.00	104	99.03	100.00

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
PEKV	VHF	227	100.00	100.00	288	100	100.00
MUCV	VHF	220	99.54	99.54	119	100	100.00
ESB7	VHF	218	97.70	98.16	111	98.19	99.09
TPE	VHF	215	99.53	99.53	179	98.88	99.44
VAR	VHF	213	99.06	99.06	170	97.05	97.05
MCT	VHF	212	99.52	100.00	218	99.54	100.00
VIE	VHF	212	100.00	100.00			
CKGV	VHF	208	100.00	100.00	357	100	100.00
APK2	VHF	206	98.05	99.51	634	95.42	97.94
HETV	VHF	204	100.00	100.00	170	100	100.00
TNA	VHF	203	100.00	100.00	136	100	100.00
LNZT	VHF	201	99.50	99.50	108	98.14	98.14
VAR7	VHF	196	96.42	96.93	124	98.38	98.38
LGGV	VHF	196	99.48	99.48			
NRTV	VHF	192	98.95	100.00	160	98.12	98.75
HND1	VHF	190	100.00	100.00	133	100	100.00
GMP1	VHF	190	100.00	100.00			
ZUH	VHF	190	99.47	100.00	154	97.4	98.05
IST7	VHF	187	88.23	93.58			
KHH1	VHF	180	100.00	100.00			
MWX	VHF	178	96.62	99.43			
TSRV	VHF	177	98.87	98.87	193	99.48	99.48
KRYV	VHF	175	99.42	100.00			
HAK	VHF	175	98.28	98.28	225	100	100.00
TSR1	VHF	175	98.28	98.28	123	100	100.00
SZF1	VHF	172	98.25	100.00	145	100	100.00
ISTS	VHF	160	97.50	98.75			
SXR1	VHF	155	100.00	100.00	112	99.1	99.10
PUS1	VHF	155	99.35	99.35			
ISTW	VHF	153	100.00	100.00			
UBN1	VHF	153	100.00	100.00			
FRAV	VHF	153	100.00	100.00	187	99.46	99.46
FRA	VHF	149	99.32	100.00			

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
BUDV	VHF	148	99.32	99.32	119	99.15	99.15
ESBV	VHF	146	100.00	100.00	164	98.78	98.78
IZOV	VHF	142	95.77	97.18			
OTP	VHF	141	100.00	100.00			
HNDV	VHF	140	100.00	100.00	103	100	100.00
LEJ7	VHF	140	99.28	99.28			
FRAT	VHF	136	99.26	99.26			
OTPV	VHF	136	97.05	97.05	132	97.72	97.72
KWJ1	VHF	134	99.25	100.00			
XAIV	VHF	133	100.00	100.00			
CGO	VHF	133	100.00	100.00			
YGJV	VHF	133	99.24	99.24	119	100	100.00
HFEV	VHF	129	100.00	100.00			
CGOV	VHF	128	100.00	100.00			
TAE1	VHF	127	100.00	100.00			
YNTV	VHF	125	100.00	100.00	119	100	100.00
LHRV	VHF	124	99.19	100.00			
ICN1	VHF	122	98.36	99.18	199	100	100.00
KHH	VHF	121	97.52	100.00			
MUC	VHF	119	99.15	99.15			
ISL	VHF	118	98.30	98.30			
TPE7	VHF	118	100.00	100.00			
MUCT	VHF	117	100.00	100.00			
HNDv	VHF	117	98.29	100.00			
TPE8	VHF	115	99.13	100.00			
EVN1	VHF	112	97.32	100.00			
WEH	VHF	112	100.00	100.00			
JZH	VHF	112	97.32	98.21	125	98.4	98.40
XNN	VHF	110	100.00	100.00			
CND7	VHF	110	96.36	97.27			
KIXV	VHF	110	100.00	100.00			
SAW	VHF	109	98.16	98.16			
VIEV	VHF	108	99.07	99.07	120	99.16	99.16

FIR		ZWWW					
Criteria		RSP180					
Period		Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria		Message Counts	95%	99.84%	Message Counts	95%	99.84%
			% <=	% <=		% <=	% <=
			90sec	180sec		90sec	180sec
TAOV	VHF	108	100.00	100.00	140	100	100.00
CIHV	VHF	105	100.00	100.00			
TBSV	VHF	101	100.00	100.00	108	100	100.00

2.7 **Table 6** summarizes overall ADS-C performance per Aircraft Operator/Type for downlinks sent within the Urumqi FIR during 2024, where performance did not meet the RSP180 performance criteria.

Table 6: Urumqi FIR ADS-C Downlink Latency per Aircraft Operator/Type

FIR	ZWWW					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
By Aircraft Operator / Type (only message counts >100 recorded)						
CPA/B77W	29688	97.65	99.40	20276	97.75	99.53
CLX/B748	13403	98.99	99.88	11028	99.4	99.97
THY/B77W	11484	99.17	99.82	2616	99.04	99.57
KLM/B772	10330	96.68	99.81	7543	96.47	99.76
THY/A332	8372	99.8	99.89	3333	99.54	99.75
BOX/B77L	6310	98.17	99.27	3694	97.88	98.94
CLX/B744	6274	97.19	98.93	3541	97.74	99.12
UAE/B773	6238	98.31	99.83	5690	98.31	99.85
KLM/B789	5991	98.74	99.49	5856	98.77	99.67
FDX/B77L	5920	97.21	99.08	3669	96.92	98.90
UAE/A388	5749	99.87	99.94	5671	99.8	99.98
AZG/B748	4398	99.52	99.95	3361	99.43	99.82
QTR/B77W	4389	98.38	99.52	2672	96.44	98.46
DLH/A346	4181	99.16	99.78	6837	98.71	99.67
BAW/B789	3704	98.94	99.83	2751	98.72	99.78
CPA/A359	3659	99.86	99.97	6975	99.77	99.88
ICV/B744	3565	90.93	95.34	2216	92.59	95.80

FIR	ZWWW					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key  Meets Criteria  99.0%-99.84%  Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
KAL/B748	3304	98.72	99.75	1304	98.61	99.92
CPA/B748	2973	98.82	99.83	2827	98.83	99.71
ETH/B788	2964	99.86	99.93	1927	99.42	99.74
AFR/B77W	2949	97.72	99.59	2410	96.8	99.70
DLH/B748	2947	99.21	99.96	2348	98.67	99.87
CRK/A332	2817	99.82	99.96	3270	99.63	99.78
IGA/GL5T	2730	99.37	100.00	2239	99.46	99.95
KAL/B77W	2251	98.84	99.86	609	98.19	100.00
CAL/B77W	2035	98.47	99.70			
ETH/B777	1954	98.77	99.53	1437	98.39	99.51
VIR/B789	1925	98.96	99.89	437	99.31	99.77
QTR/B77L	1907	98.84	99.63	1737	98.9	99.59
TYR/CRJ1	1859	99.03	99.89			
FIN/A359	1858	99.94	100.00	2896	99.89	99.89
KAL/A332	1775	97.74	99.71	299	99.66	100.00
UPS/B744	1693	98.16	99.23	2127	98.21	99.67
CAL/A359	1536	99.60	99.73			
DLH/A359	1413	99.50	99.71	1010	99.7	99.90
DLH/B744	1392	98.49	99.64	1137	97.53	99.12
THY/A333	1288	99.68	99.92	641	99.53	99.84
AFR/B772	1275	99.29	99.84	858	97.66	99.41
DLH/A343	1269	99.60	99.92	1166	99.91	100.00
GEC/B77L	1235	98.38	99.51	2147	98.36	99.58
BAW/B772	1169	98.88	99.65	1561	99.23	99.80
UZB/B763	1160	97.75	99.48	568	97.88	99.82
GTI/B744	1105	97.73	99.54	1370	97.08	99.27
CPA/B744	1084	98.98	99.72	1004	99.4	99.90
IGA/A320	1072	98.13	99.06	1528	99.54	99.93
ETD/B789	1036	99.22	99.90	758	99.34	99.86
PAC/B748	1021	99.02	99.41	298	98.65	99.66
ICL/B744	984	99.28	99.89	2212	99.86	99.95
KAL/B77L	934	98.82	99.78	239	99.16	99.16
GTI/B748	898	98.88	99.55	855	98.83	99.41
KLM/B77W	897	96.43	99.88	805	96.64	99.25

FIR	ZWWW					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key  Meets Criteria  99.0%-99.84%  Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
UAE/B772	885	97.85	99.66	747	98.39	100.00
RUN/B744	847	98.11	98.70	111	99.09	100.00
AZG/B744	821	93.66	96.71	473	91.12	95.13
EVA/B77W	819	99.14	99.75			
CLH/A346	716	99.44	99.72	812	98.89	100.00
HKC/A332	713	99.85	100.00	801	100	100.00
ETH/B772	701	99.71	100.00	685	98.39	99.70
AAR/A333	669	99.70	100.00	338	100.00	100.00
ETH/A359	636	99.05	99.21	258	99.22	99.22
AAR/B744	579	98.10	98.44	157	92.99	94.90
CKS/B744	511	99.41	99.41	316	98.41	98.73
CPA/B773	507	95.66	98.02	384	98.43	99.47
CLH/A343	505	98.81	99.80	532	99.62	100.00
BAW/B788	501	99.20	99.80			
AUA/B772	501	99.80	99.80	504	99.6	99.80
PAC/B744	465	98.49	100.00	502	98.00	99.80
QTR/A359	456	99.56	100.00	869	99.76	100.00
VJT/GLEX	412	97.33	99.27	201	98	100.00
KAL/B772	388	97.42	98.96	869	98.61	99.53
BAW/B77W	351	98.00	99.43			
LOT/B788	349	97.99	100.00			
KAL/B773	326	97.85	99.38			
AAI/B744	306	94.44	96.07	402	96.01	97.51
SWR/A343	286	100	100.00			
NCA/B748	208	100	100.00			
MSR/B773	195	99.48	100.00			
CCA/A332	184	98.91	100.00			
CKS/B741	171	97.07	100.00			
NCR/B744	156	98.71	100.00	205	86.34	87.31
IGA/A319	149	98.65	99.32			
ANA/B789	147	98.63	100.00			
DHK/B763	145	97.93	99.31			
UZH/B788	139	99.28	100.00			
ETD/B773	137	100.00	100.00			

FIR	ZWWW					
Criteria	RSP180					
Period	Jan-June 2024			July-December 2024		
Colour Key  Meets Criteria  99.0%-99.84%  Under Criteria	Message Counts	95%	99.84%	Message Counts	95%	99.84%
		% <=	% <=		% <=	% <=
		90sec	180sec		90sec	180sec
IGA/GLF6	132	100.00	100.00	132	99.24	100.00
FDX/MD11	125	100.00	100.00			
IGA/GLEX	123	99.18	100.00			
BAW/A388	110	100.00	100.00			
CCA/A333	105	99.04	100.00	125	99.20	100.00
ABD/B744	102	96.07	98.03			
DLH/A333	101	100.00	100.00			

2.8 **Tables 7A and 7B** summarize overall CPDLC performance per Media Type, RGS and GES for messages sent within the ZWWW FIR during 2024, where performance did not meet the RCP240 performance criteria.

Table 7A: Urumqi FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-Jun 2024

FIR	ZWWW					
Criteria	RCP240					
Period	Jan - Jun 2024					
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% Benchmark		95.00%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% <= 60sec
By Media Type						
SAT	31	87.09	87.09	87.09	87.09	100
VHF	2	100	100	100	100	100
ALL	33	87.87	87.87	87.87	87.87	100
By Remote Ground Station (RGS) Ground Earth Station (GES)						
Designator	Type	(RGS/GES with message counts >100)				
/	/	/	/	/	/	/

Table 7B: Urumqi FIR CPDLC Performance Latency per Aircraft Operator/Type – Jul-Dec 2024

FIR	ZWWW					
Criteria	RCP240					
Period	Jul - Dec 2024					
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message e Counts	95% benchmark		99.84% Benchmark		95.00 %
		ACP	ACTP	ACP	ACTP	PORT
		% < = 180sec	% < = 120sec	% < = 210sec	% < = 150sec	% < = 60sec
By Media Type						
SAT	23	100	100	100	100	91.3
VHF	6	100	100	100	100	100
HS	4	100	0	100	0	100
SV	1	100	100	100	100	100
ALL	34	100	88.23	100	88.23	94.11
By Remote Ground Station (RGS) Ground Earth Station (GES)						
Designator	Type	(RGS/GES with message counts >100)				
/	/	/	/	/	/	/

Urumqi FIR CPDLC RCP240 Performance – Aircraft Operator/Type

2.9 **Tables 8A and 8B** summarize overall CPDLC performance per Aircraft Operator/Type for messages sent within the ZWWW FIR during 2024, where performance did not meet the RCP240 performance criteria.

Table 8A: Urumqi FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-Jun 2024

FIR	ZWWW					
Criteria	RCP240					
Period	Jan - Jun 2024					
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% < = 180sec	% < = 120sec	% < = 210sec	% < = 150sec	%< 60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
Data counts for all individual stations are below 100.						

Table 8B: Urumqi FIR CPDLC Performance Latency per Aircraft Operator/Type – Jul-Dec 2024

FIR	ZWWW					
Criteria	RCP240					
Period	Jul - Dec 2024					
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95% benchmark		99.84% benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% < =	% < =	% < =	% < =	%<
		180sec	120sec	210sec	150sec	60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
Data counts for all individual stations are below 100.						

ADS-C (RSP180) Performance

2.10 Overall ADS-C performance showed mixed results. VHF and satellite (SATCOM) communications consistently met the basic 95% timeliness requirement across both regions. However, both systems occasionally missed the stricter 99.84% target. HF radio communications failed completely to meet either requirement.

2.11 Certain stations showed persistent issues. Service designated IG1 and IGWI in both Lanzhou and Urumqi regions repeatedly fell short of both performance targets throughout 2024. The EUA1 station initially struggled but achieved compliant results after improvements in 2025.

2.12 Performance varied significantly among airlines. Major passenger carriers generally met the 95% standard, but specific cargo operators using B744 aircraft (notably ICV and AZG) consistently underperformed against both timeliness targets in all periods.

CPDLC (RCP240) Performance

2.13 Data for controller-pilot messaging was limited due to low usage, especially in Urumqi. This makes detailed analysis difficult. Where sufficient messages existed, VHF and SATCOM communications met both timeliness requirements (95% and 99.84%). Airlines couldn't be fairly compared due to very low message volumes. No operator generated enough data (>100 messages) for meaningful individual assessment in either region.

Updates from Operator

2.14 Field discussions were conducted with major operators. They shared their approved capability, airspace of operation, reporting system and self-assessment mechanism.

2.15 Regarding the RAT1 function, a major airline reports that Since 2022, the Boeing 777-300ER (B777-300ER) fleet has been operating with the BP17C version for the AIMS. To date, no documentation related to PBCS has been received beyond FTD.

2.16 Currently, BP17C remains the latest certified software version for AIMS. China was also told by the operators that Boeing plans to release the BP18 upgrade in the near term. Key enhancements in BP18 will include reducing the “retransmission time” for satellite communication (SATCOM) messages on B777 aircraft.

2.17 It was also mentioned by an Operator that the ADS-C periodic report and demand reports supports the operation in the scenario when the ADS-B becomes unexpectedly unavailable.

Support from the Stakeholders

2.18 Special thanks to Singapore for promptly providing message data for analysis. Results will be reflected to Singapore along with further studies.

2.19 Special thanks to China Eastern Airlines (CES), Sichuan Airlines (CSC) and Xiamen Airlines (CX) who provided capability qualifications, operational information, PR reporting structures, and detailed avionics update information.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss any relevant matters as appropriate.

— END —