PBCS Monitoring Reports Developed by Brazil

SAT IMG/7 & SAT SOG/7
Dakar, Senegal
6–10 April 2026

Objective of the Presentation

- Present Brazil’s automated PBCS monitoring reports;
- Show how the reports support datalink performance oversight in the Atlantico FIR; and
- Demonstrate alignment with ICAO monitoring practices in Doc 9869

Background – PBCS Monitoring Concept

PBCS monitoring is a systematic process of collecting, analyzing, and evaluating datalink communication and surveillance performance:

- It verifies whether aircraft and ATC systems meet Required Communication Performance (RCP) and Required Surveillance Performance (RSP; and
- It ensures that declared flight plan capabilities match actual operational performance observed.

Brazilian Monitoring Approach

- Brazil developed automated monitoring reports based on ICAO Doc 9869.
- The framework focuses on CPDLC communication and ADS-C surveillance performance.
- The reports identify and report potential degradations affecting PBCS operations.

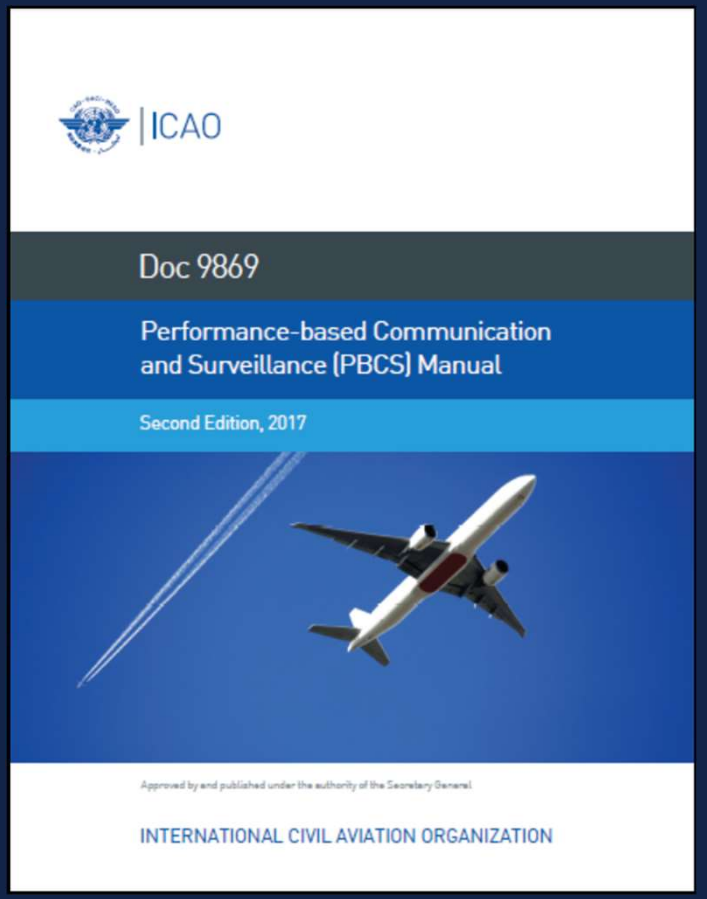

Figure 1 - Doc 9869

Monitoring Framework Structure

- A total of 48 monitoring forms were developed.
- The toolkit includes 5 main monitoring forms and 43 complementary forms.
- The broader toolkit also contains graphs, analytical forms, operational logs and text file forms.

Table D-6. ASP, ACTP, ACP and PORT by operator – tabular format

Operator	ADS-C				CPDLC						
Code	Count of ADS-C	% of total ADS-C	ASP 95%	ASP 99.9%	Count of CPDLC	% of total CPDLC	ACTP 95%	ACTP 99.9%	ACP 95%	ACP 99.9%	PORT 95%
R	141 591	12.3%	98.2%	99.4%	2 712	7.0%	99.3%	99.4%	98.5%	98.8%	95.9%
AA	113 648	9.9%	99.2%	99.8%	5 309	13.7%	99.9%	99.9%	99.5%	99.6%	97.9%
L	85 874	7.5%	98.0%	99.3%	2 490	6.4%	99.4%	99.6%	98.6%	98.8%	95.0%
BB	62 638	5.5%	99.2%	99.5%	3 096	8.0%	99.5%	99.6%	99.3%	99.7%	97.4%
II	58 775	5.1%	99.5%	99.8%	1 875	4.8%	100.0%	100.0%	99.2%	99.5%	96.6%
A	54 411	4.7%	96.0%	98.5%	1 133	2.9%	98.3%	98.9%	97.6%	98.2%	95.3%
FF	51 564	4.5%	97.5%	99.4%	2 711	7.0%	99.6%	99.7%	99.2%	99.5%	97.2%
GG	42 737	3.7%	99.2%	99.7%	1 185	3.1%	99.7%	99.8%	99.2%	99.4%	95.5%
HH	42 369	3.7%	99.4%	99.7%	1 393	3.6%	99.7%	99.9%	99.2%	99.5%	93.2%
DD	40 236	3.5%	96.5%	99.1%	2 051	5.3%	99.6%	100.0%	98.6%	99.1%	94.0%
SS	31 387	2.7%	98.2%	99.6%	524	1.3%	99.1%	99.6%	98.3%	99.1%	92.6%
BH	30 213	2.6%	94.3%	97.4%	939	2.4%	98.1%	98.8%	96.5%	97.8%	92.3%
EE	28 790	2.5%	99.2%	99.6%	1 856	4.8%	99.7%	99.7%	99.0%	99.4%	94.9%
CC	24 260	2.1%	98.5%	99.2%	856	2.2%	99.7%	99.8%	99.3%	99.5%	96.9%
TT	23 432	2.0%	99.7%	99.9%	777	2.0%	99.7%	99.7%	99.4%	99.6%	96.7%
JJ	23 352	2.0%	98.9%	99.8%	338	0.9%	99.7%	99.7%	98.2%	98.5%	94.1%
KKKK	21 066	1.8%	99.7%	99.8%	1 657	4.3%	100.0%	100.0%	100.0%	100.0%	98.1%
MM	20 228	1.8%	99.5%	99.8%	553	1.4%	99.8%	99.8%	98.9%	99.1%	95.8%
AQ	18 239	1.6%	96.8%	98.5%	733	1.9%	98.8%	99.5%	98.1%	99.2%	93.7%
PP	15 648	1.4%	99.1%	99.9%	429	1.1%	100.0%	100.0%	100.0%	100.0%	96.7%
MMMM	15 027	1.3%	96.2%	98.2%	336	0.9%	99.1%	99.1%	95.8%	97.6%	86.6%
ZZ	14 595	1.3%	99.2%	99.7%	599	1.5%	99.8%	99.8%	99.3%	99.8%	98.2%
Meets criteria →				Under criteria but above 99.0% →					Under criteria →		

Figure 2 – Table D-6 from Doc 9869

Operational Implementation

- Report generation is carried out within CINDACTA III;
- Process considers aircraft operating under the responsibility of Atlântico ACC (ACC SBAO);
- Inputs include flight plan data, datalink communication records, and ADS-C surveillance exchanges

Regional PBCS monitoring report

Region →	LAT Region	Period →	1 January to 30 June 2014 (6 months)

RCP

Specification →	RCP 240	Application →	CPDLC

Colour key		Transaction counts (WILCO received)	95% RCP 240 benchmark		99.9% RCP 240 benchmark	
Meets criteria →			ACP	ACTP	ACP	ACTP
Under criteria but above 99.0% →			<=180 sec	<=120 sec	<=210 sec	<=150 sec
Under criteria →			End-to-end	Network	End-to-end	Network
ANSP/control area (CTA)						
LAT Region		201 723	98.6%	99.0%	99.4%	99.6%
ANSP1/CTA1		27 608	98.5%	98.9%	99.3%	99.6%
ANSP2/CTA2		22 736	98.9%	99.3%	99.5%	99.6%
...						

RSP

Specification →	RSP 180	Application →	ADS-C

Colour key (Same as for RCP)		Report counts	95% RSP 180 benchmark ASP % <=90 sec	99.9% RSP 180 benchmark ASP % <=180 sec
Control area				
LAT Region		5 043 218	98.4%	99.4%
ANSP1/CTA1		484 610	97.7%	98.9%
ANSP2/CTA2		628 998	98.6%	99.3%

Regional PBCS monitoring report

Region →	LAT Region	Period →	1 January to 30 June 2014 (6 months)
...			

Figure 3 – Regional PBCS report sample from Doc 9869

Use of Monitoring Results

- The reports support technical analyses of operational performance trends;
- They help detect deviations from required RCP and RSP standards; and
- Results can support investigations, coordination activities, and operational mitigation actions

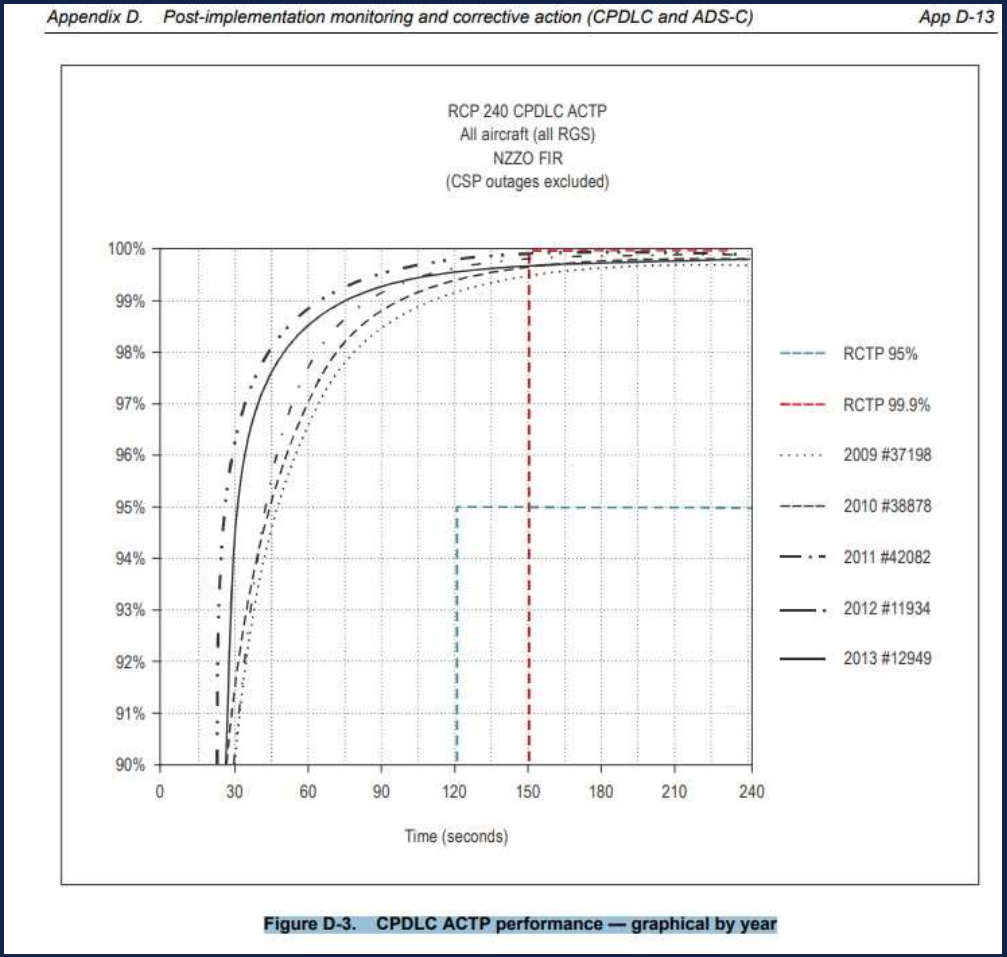

Figure 4 – Chart sample from Doc 9869

Regional Integration

- Consolidated information is shared with the regional monitoring entities, including CARSAMMA;
- The reports contribute to the regional PBCS monitoring framework, and;
- This approach supports safe and efficient implementation of performance-based separation across the region

Figure 5 – PBCS Monitoring Flow

Main Monitoring Forms Overview

- The core forms cover datalink service availability;
- They track daily PBCS aircraft movements; and
- They monitor local RCP and RSP performance by aircraft and compare operator datalink performance

AUTOMATED PBCS NON-COMPLIANCE MONITORING FORMS LIST

Main Monitoring Forms		
No.	**Name (Standardized)**	**Reference in ICAO Doc 9869**
1	**Datalink Service Unavailability Monitoring Report**	D-7
2	**Daily PBCS Aircraft Movements Report**	NIL – Reference: Doc 10063 item 3.4.2
3	**Local PBCS Monitoring Form – RSP (ADS-C) by Aircraft Registration**	D-9
4	**Local PBCS Monitoring Form – RCP (CPDLC) by Aircraft Registration**	D-8
5	**Operator Datalink Performance Comparison Report (ACP / ACTP / ASP / PORT)**	D-6

Figure 6 – Brazilian automated PBCS non-Compliance monitoring form list

Datalink Service Unavailability Monitoring Report (D-7)

Appendix B sample

- Identifies of datalink service disruption;
- Supports analysis of service reliability and continuity;
- Enables structured reporting of outages and operational impact

Table D-7. Example service availability local PBCS monitoring report

PBCS monitoring report – service availability				
ANSP/CTA →	ANSP1/CTA1	*Period →*	1 January to 30 June 2014 (6 months)	
Specification →	RCP 240/RSP 180	*Application →*	CPDLC/ADS-C	
CSP notification	*CSP name*	*Outage type*	*Start time*	*Duration (minutes)*
200907150005	CSP1	SATCOM	200907150001	19
Not notified	N/A	SATCOM	200907212233	22
200907281515	CSP2	VHF	200907281510	15
. . .				

Figure 7 - Doc 9869 example for Datalink Service Unavailability Monitoring Report

Datalink Service Unavailability Monitoring Report (D-7)

Appendix B sample

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RELATÓRIO PBCS

Relatório de Interrupções Datalink

Data/Hora Inicial:	01/11/2025 00:00	Data/Hora Final:	18/12/2025 13:12

Obs.: as interrupções estão ordenadas em ordem crescente da data/hora de início da interrupção

Notificação do CSP	Nome do CSP/Ticket	Tipo de Interrupção	Início	Término	Duração (min)
Não há dados para o período selecionado					
Total					**0**

Critérios para identificação de interrupções não identificada:

1 - Pelo menos 4 ou mais mensagens ADS-C e/ou CPDLC consecutivas da mesma Estação, ordenada pela data/hora de envio, com tempo de downlink(hora de recebimento menos hora de envio) maior que 180 segundos;

2 - As mensagens consecutivas sejam de ao menos 3 aeronaves diferentes;

3 - O horário de envio entre cada mensagem consecutiva de uma mesma estação, deve ser menor que 24 horas para que essas mensagens sejam consideradas como continuidade de falha;

4 - A duração da interrupção seja maior ou igual a 10 minutos(600 segundos).

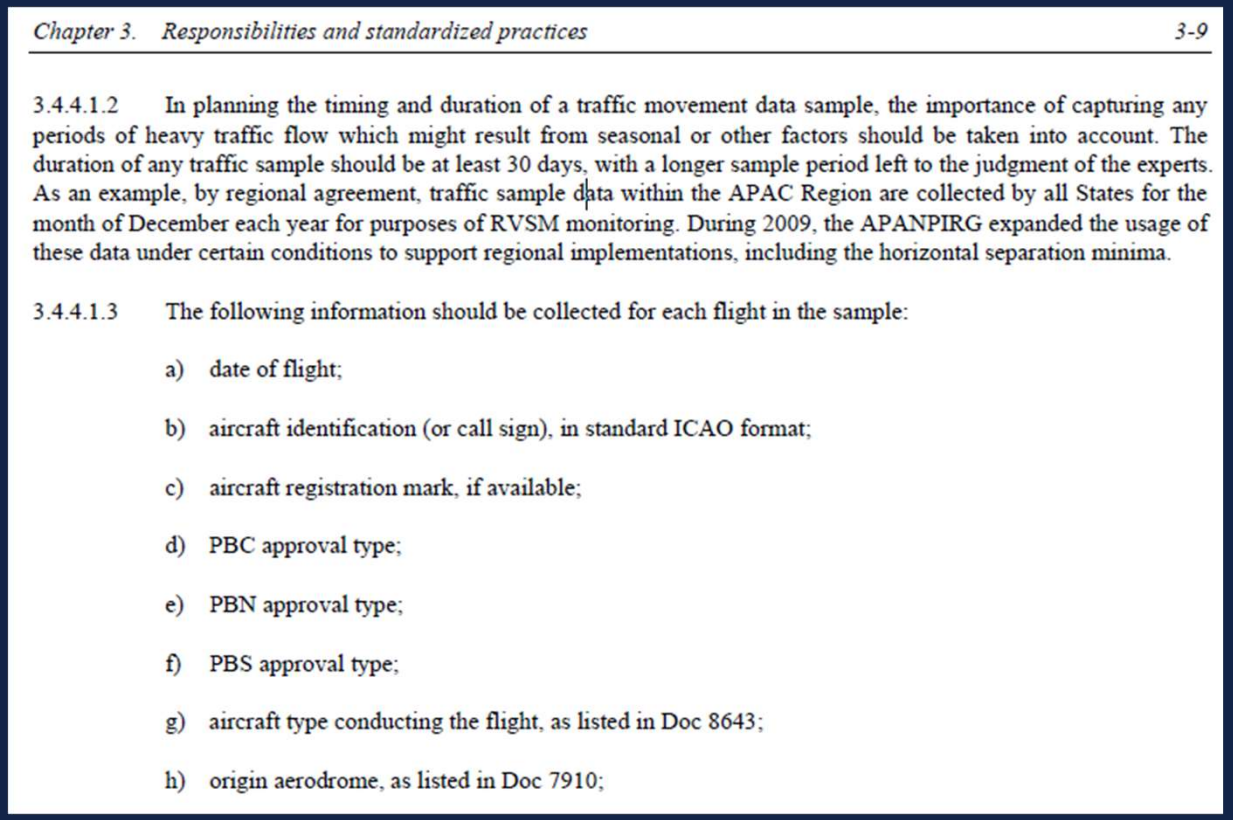
1 / 1

Figure 8 - Brazilian Form for Datalink Service Unavailability Monitoring Report

Daily PBCS Aircraft Movements Report

Appendix B sample

- Tracks aircraft operating under PBCS on a daily basis;
- Provides an operational overview of traffic volume and activity; and
- Supports movement tracking and compliance with PBCS monitoring.



Chapter 3. Responsibilities and standardized practices 3-9

3.4.4.1.2 In planning the timing and duration of a traffic movement data sample, the importance of capturing any periods of heavy traffic flow which might result from seasonal or other factors should be taken into account. The duration of any traffic sample should be at least 30 days, with a longer sample period left to the judgment of the experts. As an example, by regional agreement, traffic sample data within the APAC Region are collected by all States for the month of December each year for purposes of RVSM monitoring. During 2009, the APANPIRG expanded the usage of these data under certain conditions to support regional implementations, including the horizontal separation minima.

3.4.4.1.3 The following information should be collected for each flight in the sample:

a) date of flight;

b) aircraft identification (or call sign), in standard ICAO format;

c) aircraft registration mark, if available;

d) PBC approval type;

e) PBN approval type;

f) PBS approval type;

g) aircraft type conducting the flight, as listed in Doc 8643;

h) origin aerodrome, as listed in Doc 7910;

Figure 9 - Normative excerpt from ICAO Doc 10063 for Daily PBCS Aircraft Movements Report

Daily PBCS Aircraft Movements Report

Appendix B sample

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RELATÓRIO PBCS

Relatório de Movimentos Diários

Data Inicial: 01/11/2025 Data Final: 18/12/2025

Matrícula(s): TODOS

Operador(es) de Aeronave: PLN

Data	Indicativo Chamada da ANV	Matrícula da ANV	Tipo da ANV	Aprovado RVSM?	AD de origem	AD de destino	Ponto de Entrada	Hora no Ponto de Entrada	FL no Ponto de Entrada	Aerovias	Ponto de Saida	Hora no Ponto de Saida	FL no Ponto de Saida	RNP4	RNP10	RCP240	RSP180
06/11/2025	PLN001A	PT	B774	W	SBSV	GOOO	POLVO	11:37	300	UL330	ASDOK	16:14	300	Y	N	N	N
06/11/2025	PLN003C	PTA003C	B774	W	SBSP	FAJO	WAYBB	11:37	300	--	WAYAA	17:36	300	N	N	Y	N
06/11/2025	PLN005E	PTA005E	B774	W	SBSP	FAJO	3400S05000W	11:37	300	--	2600S01000W	19:05	300	Y	Y	Y	Y
06/11/2025	PLN008H	--	B774	W	FAOR	SOCA	ETAXO	11:37	300	UL375 / UN548 / UL327 / UL330 / UL206 / UN857 / UN873 /	ARUSI	20:42	300	Y	Y	Y	Y
06/11/2025	PLN002B	PTB	B774	X	SBNT	FAJO	BBB	11:37	250	--	AAA	18:41	250	N	Y	N	N
06/11/2025	PLN004D	PTA004D	B774	W	SBSP	FAJO	34S050W	11:37	300	--	26S010W	19:05	300	N	N	N	Y
06/11/2025	PLN006F	LTA006F	B774	W	SBFN	GOOO	VUNOK317010	11:37	300	--	TASIL328010	13:07	300	N	N	N	N

1 / 1

Figure 10 - Brazilian Form for Daily PBCS Aircraft Movements Report

Local PBCS Monitoring Form – RSP (ADS-C)

Appendix B sample

- Evaluates ADS-C surveillance performance by aircraft registration;
- Monitors compliance with required surveillance performance levels; and
- Highlights latency, reporting, or surveillance exchange issues.

Table D-9. Example RSP local PBCS monitoring report

PBCS monitoring report — RSP				
ANSP/CTA →	ANSP1/CTA1		**Period →**	1 January to 30 June 2014 (6 months)
Specification →	RSP 180		**Application →**	ADS-C
Colour key		**Report counts**	**95% RSP 180 benchmark**	**99.9% RSP 180 benchmark**
Meets criteria →			**ASP**	**ASP**
Under criteria but above 99.0% →			**<=90 sec**	**<=180 sec**
Under criteria →			**End-to-end**	**End-to-end**
Media type (100 messages or more)				
SATCOM		893 064	97.98%	99.27%
VHF		251 619	98.98%	99.54%
HF		4 013	92.30%	94.49%
. . .				
All		1 148 696	98.09%	99.28%
GES1	VHF	355 121	98.57%	99.51%
GES2	VHF	167 491	97.54%	99.31%
GES3	VHF	106 908	99.05%	99.62%
GES4	VHF	101 662	98.64%	99.38%
GES5	VHF	38 006	91.96%	96.33%

Figure 11 - Doc 9869 example for Local PBCS Monitoring Form – RSP (ADS-C)

Local PBCS Monitoring Form – RSP (ADS-C)

Appendix B sample

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RELATÓRIO PBCS

Relatório de monitoramento PBCS local RSP - ADS-C - Por Matrícula

Interrupções do CSP excluídas

Início Período:	11/2025	Fim Período:	12/2025
Matrícula(s):	TODOS		
Operador(es) de Aeronave:	TODOS		

Matrícula	Total de reportes ADS-C	Referência 95% RSP 180s ASP ≤ 90s	Referência 99.9% RSP 180s ASP ≤ 180s
		Fim a Fim	Fim a Fim
PTNOV3	123	99,19%	99,19%
PC01	8	100,%	100,%
PDEZEMB	4	100,%	100,%
PLTAM1	3	100,%	100,%
PTNOV2	3	100,%	100,%
PMDEZEM	2	50,%	50,%
PTNOV0	2	50,%	50,%
PTNOV4	2	100,%	100,%

Figure 12 - Brazilian Form for Local PBCS Monitoring Form – RSP (ADS-C

Local PBCS Monitoring Form – RCP (CPDLC)

Appendix B sample

- Assesses CPDLC communication performance by aircraft registration;
- Measures compliance with required communication performance standards; and
- Detects message delay, acknowledgment, or communication failures.

Table D-8. Example RCP local PBCS monitoring report

PBCS monitoring report – RCP								
ANSP/CTA →	ANSP1/CTA1		**Period →**		1 January to 30 June 2014 (6 months)			
Specification →	RCP 240		**Application →**		CPDLC			
Colour key		**Transaction counts (WILCO received)**	**95% RCP 240 benchmark**		**99.9% RCP 240 benchmark**			
Meets criteria →			**ACP**	**ACTP**	**ACP**	**ACTP**	**PORT**	
Under criteria but above 99.0% →			**<=180 sec**	**<=120 sec**	**<=210 sec**	**<=150 sec**	**<=60 sec**	
Under criteria →			**End-to-end**	**Network**	**End-to-end**	**Network**	**Pilot response**	
Media type (100 messages or more)								
SATCOM		35 123	98.90%	99.53%	99.28%	99.67%		
VHF		3 422	99.15%	99.80%	99.27%	99.85%		
HF		13						
SATCOM+HF		-						
SAT+VHF		-						
VHF+SAT		-						
HF+VHF		-						
. . .								
All		38 837	98.86%	99.52%	99.23%	99.67%		

Figure 13 - Doc 9869 example for Local PBCS Monitoring Form – RCP (CPDLC)

Source: SAT IMG7 & SOG7 WP/08E – Brazil/CARSAMMA

Local PBCS Monitoring Form – RCP (CPDLC)

Appendix B sample

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RELATÓRIO PBCS

Relatório de Monitoramento PBCS Local RCP - CPDLC - Por Matrícula

Interrupções do CSP excluídas

Início Período:	11/2025	Fim Período:	12/2025
Matrícula(s):	TODOS		
Operador(es) de aeronave:	TODOS		
Instruções de contato (UM117 a UM123):	SIM		

Matrícula	Total de Transações (WILCO recebido)	Referência 95% RCP 240s ACP ≤ 180s	Referência 95% RCP 240s ACTP ≤ 120s	Referência 99.9% RCP 240s ACP ≤ 210s	Referência 99.9% RCP 240s ACTP ≤ 150s	Referência 95% RCP 240s PORT ≤ 60s
		Fim a Fim	Rede	Fim a Fim	Rede	Resposta do Piloto
KDEZEMB	2	100,%	100,%	100,%	100,%	100,%
PC	1	100,%	100,%	100,%	100,%	100,%
PC0	1	100,%	100,%	100,%	100,%	100,%
PC01111	1	100,%	100,%	100,%	100,%	100,%
PHNOV1	1	100,%	100,%	100,%	100,%	100,%
PHNOV2	1	100,%	100,%	100,%	100,%	100,%

Figure 14 - Brazilian Form for Local PBCS Monitoring Form – RCP (CPDLC)

Operator Datalink Performance Comparison Report

Appendix B sample

- Compares datalink performance across operators;
- Includes ACP, ACTP, ASP, and PORT indicators; and
- Supports benchmarking, oversight, and targeted follow-up actions.

Table D-6. ASP, ACTP, ACP and PORT by operator – tabular format

Operator	ADS-C				CPDLC						
Code	Count of ADS-C	% of total ADS-C	ASP 95%	ASP 99.9%	Count of CPDLC	% of total CPDLC	ACTP 95%	ACTP 99.9%	ACP 95%	ACP 99.9%	PORT 95%
R	141 591	12.3%	98.2%	99.4%	2 712	7.0%	99.3%	99.4%	98.5%	98.8%	95.9%
AA	113 648	9.9%	99.2%	99.8%	5 309	13.7%	99.9%	99.9%	99.5%	99.6%	97.9%
L	85 874	7.5%	98.0%	99.3%	2 490	6.4%	99.4%	99.6%	98.6%	98.8%	95.0%
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A	54 411	4.7%	96.0%	98.5%	1 133	2.9%	98.3%	98.9%	97.6%	98.2%	95.3%
FF	51 564	4.5%	97.5%	99.4%	2 711	7.0%	99.6%	99.7%	99.2%	99.5%	97.2%
GG	42 737	3.7%	99.2%	99.7%	1 185	3.1%	99.7%	99.8%	99.2%	99.4%	95.5%
HH	42 369	3.7%	99.4%	99.7%	1 393	3.6%	99.7%	99.9%	99.2%	99.5%	93.2%
DD	40 236	3.5%	96.5%	99.1%	2 051	5.3%	99.6%	100.0%	98.6%	99.1%	94.0%
SS	31 387	2.7%	98.2%	99.6%	524	1.3%	99.1%	99.6%	98.3%	99.1%	92.6%
BH	30 213	2.6%	94.3%	97.4%	939	2.4%	98.1%	98.8%	96.5%	97.8%	92.3%
EE	28 790	2.5%	99.2%	99.6%	1 856	4.8%	99.7%	99.7%	99.0%	99.4%	94.9%
CC	24 260	2.1%	98.5%	99.2%	856	2.2%	99.7%	99.8%	99.3%	99.5%	96.9%
TT	23 432	2.0%	99.7%	99.9%	777	2.0%	99.7%	99.7%	99.4%	99.6%	96.7%
JJ	23 352	2.0%	98.9%	99.8%	338	0.9%	99.7%	99.7%	98.2%	98.5%	94.1%
KKKK	21 066	1.8%	99.7%	99.8%	1 657	4.3%	100.0%	100.0%	100.0%	100.0%	98.1%
MM	20 228	1.8%	99.5%	99.8%	553	1.4%	99.8%	99.8%	98.9%	99.1%	95.8%
AQ	18 239	1.6%	96.8%	98.5%	733	1.9%	98.8%	99.5%	98.1%	99.2%	93.7%
PP	15 648	1.4%	99.1%	99.9%	429	1.1%	100.0%	100.0%	100.0%	100.0%	96.7%
MMMM	15 027	1.3%	96.2%	98.2%	336	0.9%	99.1%	99.1%	95.8%	97.6%	86.6%
ZZ	14 595	1.3%	99.2%	99.7%	599	1.5%	99.8%	99.8%	99.3%	99.8%	98.2%

Figure 15 - Doc 9869 example for Operator Datalink Performance Comparison Report

Operator Datalink Performance Comparison Report

Appendix B sample

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ACC Atlântico

RELATÓRIO PBCS

Relatório de Desempenho de ACTP, ACP, PORT, ASP por operador de aeronave

Interrupções do CSP excluídas

Início Período: 11/2025 Fim Período: 12/2025

Matrícula(s): TODOS

Instruções de Contato (UM117 a UM123): Sim

Operador de Aeronave	ADS-C				CPDLC						
	Total de reportes ADS-C	% de Total de reportes ADS-C	Referência 95% RSP 180s ASP ≤ 90s Fim a Fim	Referência 99.9% RSP 180s ASP ≤ 180s Fim a Fim	Total de Transações CPDLC (WILCO recebido)	% de Total de Transações CPDLC (WILCO recebido)	Referência 95% RCP 240s ACTP ≤ 120s Rede	Referência 99.9% RCP 240s ACTP ≤ 150s Rede	Referência 95% RCP 240s ACP ≤ 180s Fim a Fim	Referência 99.9% RCP 240s ACP ≤ 210s Fim a Fim	Referência 95% RCP 240s PORT ≤ 60s Resposta do Piloto
AEY	123	81,46%	99,19%	99,19%	0	0,%	0,%	0,%	0,%	0,%	0,%
YYY	10	6,62%	100,00%	100,%	3	2,4%	100,%	100,%	100,%	100,%	100,%
TAM	8	5,3%	100,00%	100,%	3	2,4%	100,%	100,%	66,67%	66,67%	66,67%
FAB	5	3,31%	80,00%	80,%	5	4,%	80,%	80,%	80,%	80,%	80,%
BPA	3	1,99%	33,33%	66,67%	4	3,2%	75,%	100,%	50,%	100,%	50,%
AFR	2	1,32%	100,00%	100,%	0	0,%	0,%	0,%	0,%	0,%	0,%
GOL	0	0,%	0,00%	0,%	7	5,6%	100,%	100,%	100,%	100,%	100,%

Figure 16 - Brazilian Form for Operator Datalink Performance Comparison Report

Complementary Monitoring Forms Overview

Complementary Monitoring Forms		
No.	**Name (Standardized)**	**Reference in ICAO Doc 9869**
1	**CPDLC Uplink Confirmation Time Monitoring Form**	D-1
2	**ADS-C Message Forwarding Time Monitoring Form**	D-3
3	**Local PBCS Monitoring Form – RCP by Communication Type**	D-8
4	**Local PBCS Monitoring Form – RCP by Aircraft Operator**	D-8
5	**Local PBCS Monitoring Form – RCP by Uplink Message Type**	D-8
6	**Local PBCS Monitoring Form – RCP by Ground Station**	D-8
7	**Local PBCS Monitoring Form – RCP by Grouped Communication Type**	D-8
8	**Local PBCS Monitoring Form – RSP (ADS-C)**	D-9
9	**Local PBCS Monitoring Form – RSP by Ground Station**	D-9
10	**Local PBCS Monitoring Form – RSP by Media Type**	D-9
11	**Local PBCS Monitoring Form – RSP by Grouped Communication Type**	D-9
12	**RCP Performance Monitoring Report – ACP / ACTP / PORT (Cumulative)**	D-10
13	**Aircraft Operator Monitoring Report – CPDLC by Aircraft Type**	D-10
14	**Aircraft Operator Monitoring Report – ADS-C by Aircraft Type**	D-10
15	**FIR Monitoring Report – RCP (CPDLC)**	D-11
16	**FIR Monitoring Report – RSP (ADS-C)**	D-11

Figure 17 – List of Complementary Monitoring Forms Overview

Complementary Monitoring Forms Overview

Complementary Monitoring Forms		
No.	**Name (Standardized)**	**Reference in ICAO DOC 9869**
17.	**Report on the number of automatically rejected CPDLC downlink messages**	2.2.3.2 b)
18.	**Report on the number of retransmitted CPDLC uplink messages**	2.2.3.2 c)
19.	**Report on the number of CPDLC uplink messages pending operational response**	2.2.3.2 c)
20.	**Monthly cumulative ADS-C ASP performance report**	3.1.5.6 - Figure D-4./ 3.1.5.8 - Figure D-6 (by Operator)
21.	**Monthly cumulative CPDLC ACTP performance report**	
22.	**Monthly cumulative CPDLC ACP performance report**	
23.	**Monthly cumulative PORT ACP performance report**	
24.	**Weekly cumulative ADS-C ASP performance report**	
25.	**Weekly cumulative CPDLC ACTP performance report**	
26.	**Weekly cumulative CPDLC ACP performance report**	
27.	**Weekly cumulative PORT ACP performance report**	

Figure 18 – Cont. List of Complementary Monitoring Forms Overview

Complementary Monitoring Forms Overview

Complementary Monitoring Forms		
No.	**Name (Standardized)**	**Reference in ICAO DOC 9869**
28.	**ASP performance report -by year**	3.1.5.6 - Figure D-3.
29.	**ACTP performance report - by year**	
30.	**ACP performance report - by year**	
31.	**PORT performance report -by year**	
32.	**ADS-C text file**	Table D-3. - ADS-C data collection points
33.	**CPDLC text file**	Table D-1. - Label CPDLC data collection points
34.	**ADS-C and CPDLC availability report**	Figure D-5. - CPDLC ACTP comparative operator/aircraft type performance
35.	**ADS-C and CPDLC interruption report (overall)**	Table D-4. - ADS-C outages not notified
36.	**Registry of reported ADS-C and CPDLC communication interruptions**	

Figure 19 – Cont. List of Complementary Monitoring Forms Overview

Operational Logs and Additional Monitoring Records Overview

Operational Logs and Additional Monitoring Records		
No.	**Name (Standardized)**	**Reference**
1	**ADS-C LLD Operational Log**	NIL – Doc 10063 item 3.4.3.4.5
2	**ACP Violation Report**	NIL
3	**ASP Violation Report**	NIL
4	**CPDLC Acknowledgment Log**	NIL
5	**RCP Alert Log**	NIL
6	**Minimum Separation Violation Daily Report**	NIL
7	**CPDLC Message Data Volume Report (Kilobits)**	NIL

Figure 20 – List of Operational Logs and Additional Monitoring Records Overview

Conclusion and Action by the Meeting

- Brazil developed a comprehensive automated PBCS monitoring toolkit.
- The reports are aligned with ICAO standards and regional monitoring needs.

3.1 The meeting is invited to:

a) take note of the monitoring report forms presented in this paper as a possible reference for PBCS monitoring reporting in the region; and

b) provide directions as deemed necessary.

Thanks!

Departamento
de Controle do Espaço Aéreo
Department of Airspace Control

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