ACN: 1871849 *(3 of 22)*

Time / Day
Date : 202201
Local Time Of Day : 1201-1800

Place
Locale Reference.Airport : DEN.Airport
State Reference : CO

Environment
Flight Conditions : VMC

Aircraft
Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Airspace.Class B : DEN

Component : 1
Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Component : 2
Aircraft Component : Transponder
Aircraft Reference : X
Problem : Malfunctioning

Person
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 178.38
Experience.Flight Crew.Type : 1048.15
ASRS Report Number.Accession Number : 1871849

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Aircraft : Equipment Problem Dissipated

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Environment - Non Weather Related

Narrative: 1

We got indications of left GPS fail, then right GPS fail, then transponder fail, all stayed active until after landing. We notified ATC and they said lots of jets reporting the same. VMC and no degradation or our navaids was perceptible

Synopsis

Air carrier First Officer reported loss of GPS and transponder on arrival into DEN. Systems returned to normal after landing.

ACN: 1871693 *(4 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO

Environment

Flight Conditions : IMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : DEN

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : DEN

Component

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer

Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1871693

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Environment - Non Weather Related

Narrative: 1
No GPS signal on KLN-90B, followed by a confirmation of no GPS via EFB (iPads). Reported to ATC. Other aircraft followed up with more reports. Transponder remained operative but was reported failing in other airplanes. Air Carrier Y aircraft was also seen and reported possibly performing a "resolution advisory". The collision path never appeared to show imminent need for reaction. Our TCAS never indicated closer than 1000' in any direction. Not confirmed if the events were related. Still really strange hearing Air Carrier Y on ATC at the same time as GPS outages. GPS failure in our aircraft as well as other aircraft in vicinity. Other aircraft experienced Transponder and GPS full loss of signal.

Synopsis
Air carrier First Officer reported a possible conflict and loss of GPS on approach to DEN.

ACN: 1870383 *(5 of 22)*

Time / Day
Date : 202201
Local Time Of Day : 0601-1200

Place
Locale Reference.ATC Facility : DEN.Tower
State Reference : CO
Altitude.AGL.Single Value : 400

Environment
Flight Conditions : VMC

Aircraft
Reference : X
ATC / Advisory.Tower : DEN
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class B : DEN

Component : 1
Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Failed

Component : 2
Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Failed

Person
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 17454.30
Experience.Flight Crew.Last 90 Days : 101.17
Experience.Flight Crew.Type : 6215.78
ASRS Report Number.Accession Number : 1870383

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Ambiguous

Narrative: 1
Approx 400 feet AGL [we received] ECAM for dual ADS-B failure "ADS-B RPTG 1/2 fault". This followed [at] 800 feet [by] GPS lost/failure shortly after. ATC advised, per NOTAM we understood DEN has issues. Dispatch notification after level off.

Synopsis
Air carrier Captain reported loss of ADS-B and GPS departing DEN.

ACN: 1870382 *(6 of 22)*

Time / Day
Date : 202201

Place
Locale Reference.ATC Facility : DEN.Tower
State Reference : CO

Environment
Flight Conditions : VMC

Aircraft
Reference : X
ATC / Advisory.Tower : DEN
Aircraft Operator : Air Carrier
Make Model Name : Widebody, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 121

Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Airspace.Class B : DEN

Component
Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Malfunctioning

Person
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 13538.80
Experience.Flight Crew.Last 90 Days : 149.63
Experience.Flight Crew.Type : 2720.75
ASRS Report Number.Accession Number : 1870382

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Aircraft : Equipment Problem Dissipated

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Ambiguous

Narrative: 1
Both ADS-B receivers failed on base leg. Appeared to resume normal operations on final.

Synopsis
Air carrier Captain reported momentary loss of both ADS-B receivers on approach to DEN.

ACN: 1870375 *(7 of 22)*

Time / Day
Date : 202201
Local Time Of Day : 0601-1200

Place
Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.AGL.Single Value : 0

Environment
Flight Conditions : VMC

Aircraft
Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class B : DEN

Component : 1

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Transponder
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 165
ASRS Report Number.Accession Number : 1870375

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Ambiguous

Narrative: 1

Departing from DIA we lost Left GPS taxiing out. On climb out we lost both GPS and had transponder failure. Alerted ATC and they knew about it, said everyone was having the same issue and it would go away 30 miles east of Denver. We eventually got both GPS back and transponder fail went away 60nm east if Denver climbing through FL260. Worked fine rest of the flight. Heard numerous aircraft having the same issue near Denver. Alerted Dispatch via ACARS that it might be a 5G interference issue but they said 5G wasn't activated in DEN yet, so I have no idea what's causing the issues there then but it's widespread and hitting all the aircraft.

Synopsis

Air carrier Captain reported departing DEN the loss of GPS and transponder.

ACN: 1870372 *(8 of 22)*

Time / Day

ASRS Reports of GPS Problems, Denver, January 2022
https://akama.arc.nasa.gov/ASRSDBOnline/QueryWizard_Filter.aspx

Date : 202201
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 24000

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.Center : ZDV
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Route In Use.STAR : SSKII3
Airspace.Class A : ZDV

Component : 1

Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 19520
Experience.Flight Crew.Last 90 Days : 125
Experience.Flight Crew.Type : 2869
ASRS Report Number.Accession Number : 1870372

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Environment - Non Weather Related

Narrative: 1

Denver Center warned all aircraft entering their sector that they had been experiencing 5G interference. While descending on the SSKII 3 Arrival, we had an ECAM showing NAV ADS-B 1 and 2 faults. This message disappeared and reappeared several times. About 5 minutes later we lost both GPS 1 and 2. We never recovered the GPS's. During a later descent, the aircraft leveled at BOENG intersection at 9,200 feet with a green ALT CONST FMA. The published altitude was 9,000 feet. According to ATC, several other aircraft had also reported issues with their ADS-B and GPS systems.

Synopsis

Air carrier Captain reported losing ADS-B and GPS signals inbound to DEN. ATC advised the crew several other aircraft were experiencing ADS-B and GPS system issues possibly due to 5G interference.

ACN: 1870368 *(9 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.AGL.Single Value : 800

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain

Aircraft

Reference : X
ATC / Advisory.Tower : DEN
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Flight Phase : Takeoff / Launch
Airspace.Class B : DEN

Component

Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain

Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 22800
Experience.Flight Crew.Last 90 Days : 165
Experience.Flight Crew.Type : 1619
ASRS Report Number.Accession Number : 1870368

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Environment - Non Weather Related

Narrative: 1

As we prepared for pushback from DEN, we received a message from Dispatch that numerous aircraft departing DEN were losing their GPS, possibly due to interference from the 5G signals. We discussed the possibility of losing our GPS on our departure. During our initial climbout at 800 feet AGL, we received an EICAS message indicating that we lost our ADS-B out capabilities. I reported this to ATC, and we were told by ATC, that numerous aircraft had been experiencing various navigation/Communication failures which appeared to be due to interference of the new 5G signals. These failures included loss of GPS, Loss of ADS-B, and loss of transponder. In our case, we only had a loss of the ADS-B out. signal. By FL180 everything returned to normal operations. We had no further issues with any of our communication and or navigation equipment for the rest of the flight. We notified Dispatch of our issues while departing DEN. We did not write up the ADS-B as an ELB, as the problem seemed related to the 5G signal and then went away as we gained more altitude on the climb.

Synopsis

Air carrier Captain reported losing ADS-B out capabilities on departure from Denver. Reportedly, ATC advised the crew of several ADS-B, GPS and transponder issues possibly due to 5G interference.

ACN: 1870361 *(10 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use.Localizer/Glideslope/ILS : 35L
Flight Phase : Initial Approach
Airspace.Class B : DEN

Component

Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 142.58
Experience.Flight Crew.Last 90 Days : 142.58
Experience.Flight Crew.Type : 142.58
ASRS Report Number.Accession Number : 1870361
Human Factors : Human-Machine Interface

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

Upon STAR initiation (Nixxes) into DEN landing north, ATC advised a 5G event at DEN. At 10,000 feet on Localizer to 35L, ECAM intermittently dinged and displayed ADS-B 1&2 Reporting Failure. Cleared ECAM and emergency cancelled the repetitive nuisance messages. Additionally, received a GPS Lost message on FMC at 8,000 feet. Continued CAT 1 ILS to landing uneventfully. Notified maintenance of ADS-B system failure. Maintenance informed me that that was the third such report of ADS-B failure in the last 15 minutes.

Synopsis

Air carrier Captain reported ADS-B and GPS issues during arrival to DEN airport. Reportedly, ATC advised the crew of 5G events going on in the area.

ACN: 1870339 *(11 of 22)*

Time / Day
Date : 202201
Place
Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 9500
Environment
Flight Conditions : IMC
Aircraft : 1
Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Flight Plan : IFR
Mission : Passenger
Nav In Use.Localizer/Glideslope/ILS : 35R
Flight Phase : Final Approach
Airspace.Class B : DEN
Aircraft : 2
Reference : Y
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Flight Phase : Climb
Airspace.Class B : DEN
Component
Aircraft Component : GPS & Other Satellite Navigation
Person
Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 176
ASRS Report Number.Accession Number : 1870339
Human Factors : Human-Machine Interface
Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

We were on descent and cleared for the ILS 35R into DEN by the TRACON and were hearing other aircraft ahead of us losing GPS signals and transponder issues. Shortly afterwards and approaching DORRY (IF) on the ILS 35R we received a "LEVEL OFF" TCAS RA with no prior notification. The offending target was to our 2-3 o'clock and climbing. The First Officer was the Pilot Flying and complied with the RA using established SOP and I notified ATC. It appeared that the target passed beneath us. After clear of conflict we returned to our clearance for the approach and reestablished the automation. Shortly afterwards and while on final we had a temporary loss of GPS signal and transponder failure. We continued as we were established on the ILS. Both returned to normal on the ground. It seems other aircraft were having GPS/ADSB/Transponder issues that day into DEN, as well.

Synopsis

Air carrier Captain reported and airborne conflict requiring evasive action followed by a loss of GPS signal while inbound to DEN.

ACN: 1870337 *(12 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Airspace.Class B : DEN

Component : 1

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 17454
Experience.Flight Crew.Last 90 Days : 101
Experience.Flight Crew.Type : 6215
ASRS Report Number.Accession Number : 1870337
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Environment - Non Weather Related

Narrative: 1

Inbound DEN had failure of ADSB and GPS.

Synopsis

Air carrier Captain reported failure of GPS and ADSB inbound to DEN.

ACN: 1870325 *(13 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 12000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger

Nav In Use : GPS
Flight Phase : Descent
Airspace.Class B : DEN

Component : 1
Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Component : 2
Aircraft Component : Transponder
Aircraft Reference : X
Problem : Malfunctioning

Person
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 10176
Experience.Flight Crew.Last 90 Days : 118
Experience.Flight Crew.Type : 2763
ASRS Report Number.Accession Number : 1870325
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Ground Event / Encounter : Ground Equipment Issue
Result.Flight Crew : Overcame Equipment Problem

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Airspace Structure
Primary Problem : Airspace Structure

Narrative: 1
Due to continued 5G interference in the DEN area we lost GPS-L, GPS-R, and got an XPNDER FAIL light turning over FFFAT on the LAWGR 3 arrival. Later after capturing the localizer to 35R we could see the depicted path on the navigation display was offset from the actual localizer final approach course. No further issue or anomaly was experienced. Systems returned to normal by the time we parked at the gate.

Synopsis
Air carrier First Officer reported GPS and Transponder failure along with course misalignment indications on localizer.

ACN: 1870323 *(14 of 22)*

Time / Day
Date : 202201
Local Time Of Day : 1201-1800

ASRS Reports of GPS Problems, Denver, January 2022
https://akama.arc.nasa.gov/ASRSDBOnline/QueryWizard_Filter.aspx

Place
Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 13000

Environment
Flight Conditions : VMC

Aircraft
Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Route In Use.STAR : TBARR3
Airspace.Class E : ZDV

Component : 1
Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Malfunctioning

Component : 2
Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Person
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 49
Experience.Flight Crew.Type : 49
ASRS Report Number.Accession Number : 1870323
Human Factors : Distraction
Human Factors : Human-Machine Interface

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Environment - Non Weather Related

Narrative: 1

On descent on the TBARR 3 descending through 13,000 ft we received several spurious ADSB 1 and 2 faults. Then following these faults we got GPS 1 and 2 faults as well. Both faults were spurious and continued all the way through descent and approach to the ground. Maintenance feels that this is a result of the 5G implementation even though we are told that DEN is not affected by 5G.

Synopsis

Air carrier Captain reported spurious aircraft ADSB and GPS faults occurred during descent into DEN.

ACN: 1870318 *(15 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.AGL.Single Value : 4000

Environment

Flight Conditions : IMC
Weather Elements / Visibility : Rain

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Descent
Airspace.Class B : DEN

Component

Aircraft Component : ADS-B (Automatic Dependent Surveillance - Broadcast)
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 133
ASRS Report Number.Accession Number : 1870318
Human Factors : Human-Machine Interface
Human Factors : Distraction

ASRS Reports of GPS Problems, Denver, January 2022
https://akama.arc.nasa.gov/ASRSDBOnline/QueryWizard_Filter.aspx

Events
Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Provided Assistance

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1
During descent the aircraft experienced a loss of both ADS-B receiving 1 & 2 and a temporary Terrain display to standby on our NAV display. Loss was accompanied by a Class 2 message alerts which we began to run. Since the message alert requires determining the state of the transponder, I queried the ATC Controller as to the status of our transponder. He stated "Everything is fine, 5G interference in the vicinity of DEN was reported". We completed the approach.

Synopsis
Air carrier Captain reported loss of ADS-B systems during approach to DEN airport. Reportedly, ATC advised them 5G interference had been reported in the area.

ACN: 1870316 *(16 of 22)*

Time / Day
Date : 202201

Place
Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 13000

Environment
Flight Conditions : IMC
Weather Elements / Visibility : Rain

Aircraft
Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Route In Use.STAR : TBARR3
Airspace.Class B : DEN
Airspace.Class E : ZDV

Component

ASRS Reports of GPS Problems, Denver, January 2022
https://akama.arc.nasa.gov/ASRSDBOnline/QueryWizard_Filter.aspx

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 99
ASRS Report Number.Accession Number : 1870316
Human Factors : Human-Machine Interface
Human Factors : Distraction

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 11020.28
Experience.Flight Crew.Last 90 Days : 150.85
Experience.Flight Crew.Type : 8807.82
ASRS Report Number.Accession Number : 1870363
Human Factors : Human-Machine Interface
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

After checking in with Denver Approach, we were given a descend from 13,000 to 11,000 feet. As we began the descent, we received a GPS Primary Lost message on the navigation display and the GPS accuracy went from HIGH to LOW. We also received the alert message NAV ADS-B RPTG 1 (and 2) FAULT. Turning onto the final approach course, the GPS accuracy returned to HIGH, but the ADS-B Fault periodically returned. We landed the

aircraft without any other issues. Denver stated that it may have something to do with the 5G network.

Narrative: 2

On descent via the TBARR3 arrival into Denver we experienced dual GPS failure and dual NAV ADS-B RPTG 1 and 2 FAULTS. We checked in with Denver approach and we were given a heading 070 degrees and clearance to descend from 13,000 to 11,000 ft. Approach advised that several aircraft were reporting 5G navigation interference on arrival into DEN. We then experienced DUAL GPS failure and dual NAV ADS-B RPTG FAULTS in systems 1 and 2. It was an intermittent failure about every 30 seconds for about 2 minutes until it finally failed. We were approximately 30 miles southwest of DEN at this time. We subsequently heard several other aircraft report the same anomalies. The aircraft was on autopilot and continued to descend and level at 11,000 feet normally. The weather was 3,000 broken, 500 scattered and 1 3/4 miles visibility. We planned to fly the CAT I ILS 35L. I discussed the issue with the First Officer and decided to continue with our plan to fly the ILS approach. We received vectors to final and flew an uneventful approach and landing. I'm reporting this because I'm not sure if it was related to the 5G bulletins we have received over the last week. There were no NOTAMs that indicated that 5G would be an issue.

Synopsis

Air carrier flight crew reported loss of GPS signal while in descent to Denver airport.

ACN: 1870312 *(17 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Climb
Route In Use.SID : Sleek2
Airspace.Class B : DEN

Component

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 2503
Experience.Flight Crew.Last 90 Days : 122
Experience.Flight Crew.Type : 1875
ASRS Report Number.Accession Number : 1870312
Human Factors : Situational Awareness
Human Factors : Confusion
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

On departure on the SLEEK 2 RNAV Departure approximately at 7,000 feet turning toward KIDNG intersection lost GPS-L and then GPS-R momentarily. Not sure what had caused it (maybe 5G). Denver Departure was asking several questions to other aircraft about the loss of GPS. After a few seconds GPS was functioning appropriately without any issues on the flight to ZZZ1.

Synopsis

Pilot reported a loss of GPS signal, possibly attributed to 5G interference.

ACN: 1870252 *(18 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 0001-0600

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.AGL.Single Value : 1000

Aircraft

Reference : X
ATC / Advisory.Tower : DEN
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Landing
Flight Phase : Final Approach
Airspace.Class B : DEN

Component : 1

Aircraft Component : Radio Altimeter
Aircraft Reference : X
Problem : Failed

Component : 2

Aircraft Component : Autopilot
Aircraft Reference : X
Problem : Failed

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1870252

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Primary Problem : Environment - Non Weather Related

Narrative: 1

We were preparing to land in Denver, DEN. Its weather was showing 1/4 SM and VV001. We discussed with [the] FO (First Officer) and decided to brief the CAT II Approach checklist. There was no NOTAM affecting the CAT II approach in DEN about the 5G band interference. We reviewed the daily read and crew memo XX-XX about 5G interference. We tested the RA as the procedure required. RA test passed. We were assigned to descend via Runway 35L transition on [the] NIIXX 3 Arrival. We briefed the approach and we also briefed that in case of any RA interference, we could continue the CAT I Approach minimum if the reported RVR is equal to or greater than 1800 RVR. This was how we were trained in the CAT II training in [the] simulator. If the current visibility permits us to continue and land with CAT I minimum, no need to go missed even if we lost the CAT II compatibility. We received the approach clearance and switched to the Tower frequency. Tower advised us that the current visibility is 1800 RVR. We verified that if we will lose our CAT II compatibility, we will continue to CAT I minimums, which were 200 ft. DA(H). We were about 2 NM away from [the] FAF. I asked for gear down, flaps 22, and CAT II landing

check. We checked the CAT II annunciator with the CAT II landing checklist; it was green. Autopilot was ON and armed for the approach. As we crossed the FAF, FO stated, "Altitude checks, no flags." We were about 1000 AGL - not sure about the exact altitude - and our RA turned into an amber color. As we previously briefed, I stated to continue the approach with CAT I approach minimums since we have enough visibility for [the] CAT I Approach. We were about 300 - 200 AGL and our autopilot failed when [we] were in IMC. It was very unexpected and I felt distracted. I called the go-around. I felt it was the safest decision. We climbed and maintained 7000 ft. as ATC instructed. There was only an Autopilot Fail message on EICAS as much as I remember. FO and I discussed trying to put the autopilot back on to see [if] it was inoperative or not. It was pretty reliable during the 2 hours flight and our overall experience in [the] Aircraft X autopilot rarely fails. We decided to put the autopilot back on. It was working fine. Eventually, we received vectors back to Runway 35R and landed with [the] ILS CAT I Approach. The situation did not repeat. When we got to the parking position. I tested [the] autopilot again; it was working how it was supposed to. I am not sure why we lost the RA and CAT II compatibility. As a crew, we thought it might be related to 5G band interference. I couldn't understand why our autopilot failed in the critical phase of the flight. Autopilot only failed one time in my more than 3 years of experience in Aircraft X. I can say that it is one of the most reliable systems in our plane. I believe it is a big safety concern to lose autopilot at a very low altitude in IMC. I don't know if somehow there is any connection between autopilot failure, 5G band interference, and RA in amber color, or if it is a different issue. I have discussed what happened in this flight with 5 other pilot friends in the company [and] we couldn't find any logical explanation. I believe it is a big safety concern. I recommend doing some studies and testing inflight to learn about 5G interference and our procedures in every aspect, and training our pilots accordingly. I also recommend CAT II operations be suspended temporarily.

Synopsis

Air carrier First Officer reported executing a go-around at DEN when the radio altimeter failed, followed by the failure of the autopilot. Reporter stated 5G interference may have been the possible cause of the failures.

ACN: 1870193 *(19 of 22)*

Time / Day

Date : 202201

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC

Nav In Use : GPS
Nav In Use.Localizer/Glideslope/ILS : 35 R
Flight Phase : Final Approach
Route In Use : Direct
Airspace.Class B : DEN

Component : 1

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Navigational Equipment and Processing
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 11035
Experience.Flight Crew.Last 90 Days : 165
Experience.Flight Crew.Type : 7790
ASRS Report Number.Accession Number : 1870193
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Time Pressure
Human Factors : Troubleshooting
Human Factors : Workload
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Inflight Event / Encounter : CFTT / CFIT
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Staffing
Primary Problem : Ambiguous

Narrative: 1

Lost both GPS,and both transponders on approach to Denver. Heard four other aircraft have exact same issue. Also had terr pos [warning] on approach. Systems returned on landing.

Synopsis

Air Carrier First Officer reported on final approach to DEN, the loss of GPS and transponder signals. The pilot also stated other aircraft were experiencing the same problems.

ACN: 1870187 *(20 of 22)*

Time / Day

Date : 202201
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO

Environment

Flight Conditions : IMC

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Flight Phase : Final Approach
Flight Phase : Initial Approach
Airspace.Class B : DEN

Component

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Last 90 Days : 164
ASRS Report Number.Accession Number : 1870187
Human Factors : Workload
Human Factors : Distraction
Human Factors : Human-Machine Interface

Events

Anomaly.Ground Event / Encounter : Ground Equipment Issue
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Overcame Equipment Problem
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued New Clearance
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Software and Automation
Primary Problem : ATC Equipment / Nav Facility / Buildings

Narrative: 1

When we checked in with D01 Approach Controller he informed us of some GPS and ADS-B failures occurring near DIA, presumably from 5G interference. About the time he cleared us for the ILS 35L Approach (23 miles out), both of our GPS's failed, which I reported to him. When he switched us to Tower at 20 miles, our transponder failed as well, which I also reported. We landed without event and the failures corrected themselves on the ground.

Synopsis

Air Carrier pilot arriving DIA reported GPS failure.

ACN: 1870186 *(21 of 22)*

Time / Day

Date : 202201

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO

Aircraft

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Flight Phase : Final Approach
Flight Phase : Initial Climb
Airspace.Class B : DEN

Component : 1

Aircraft Component : GPS & Other Satellite Navigation
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Transponder
Aircraft Reference : X
Problem : Malfunctioning

Component : 3

Aircraft Component : TCAS Equipment
Aircraft Reference : X
Problem : Malfunctioning

Component : 4

Aircraft Component : Turbine Engine Thrust Reverser
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 10000
Experience.Flight Crew.Last 90 Days : 92
Experience.Flight Crew.Type : 92
ASRS Report Number.Accession Number : 1870186
Human Factors : Distraction

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Ground Event / Encounter : Ground Equipment Issue
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Airspace Structure
Primary Problem : Airspace Structure

Narrative: 1

Departing DEN as soon as we took off we lost both GPS systems and Transponder 1 and 2. Systems returned to normal ops at FL260. ATC informed us numerous aircraft reporting same issue. On arrival into the airport numerous received spurious TCAS alerts. TCAS was already set to TA only due to reports from preceding aircraft into airport of TCAS alerts. Turned off TCAS system and landed safely. Thrust reverser also showed an issue on taxi in, possibly related.

Synopsis

B737 Captain reported erroneous TCAS alerts on arrival, with GPS and transponder failure on departure from DEN. Captain and other aircraft suspected possible GPS jamming.