



IPACG FIT/33

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IRIDIUM NETWORK

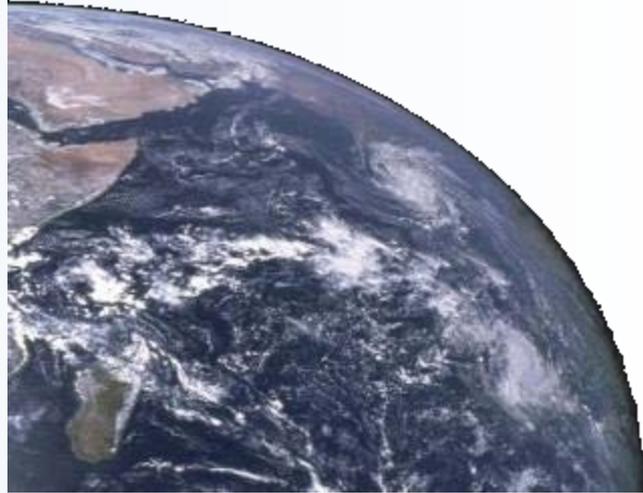


Iridium Low Earth Orbit Network

- Cross-linked satellites seamlessly connect users
- GLOBAL – pole to pole voice and data connectivity
- Providing operators a choice for LRCS communication
- Iridium is committed to aviation and the continuity of services



IRIDIUM SERVICES EVOLUTION



Continuity of Legacy Narrowband 2.4kbps Services:

- AMS(R)S Services
 - ATS Safety Voice – priority, precedence, & preemption
 - FANS Data Services – using Iridium Short Burst Data

PBCS Performance: RCP400 voice and RCP240/RSP180 data



Iridium Certus® devices are IP based multi-service terminals up to maxim Tx/Rs of the system:

- AMS(R)S Services
 - ATS Safety Voice – priority, precedence, & preemption
 - FANS Data Services – using VLAN IP segmentation and IPSEC Security
 - ATN Services – using VLAN IP segmentation and IPSEC Security

PBCS Performance*: RCP400 voice and RCP130/RSP160 data

* Declared performance in DO-343 MASPS to be validated in FAA PARC Evaluation



IRIDIUM CERTUS - SERVICE CLASSES

Iridium has created specific Certus Service Classes with defined data rates. The table below outlines these Service Classes along with Max Tx/Rx and antenna requirements:

Service Class	Max TX Speed	Max RX Speed	Min Antenna Type
Iridium Certus 100	88Kbps	88Kbps	Active Low Gain
Iridium Certus 200	176Kbps	176Kbps	Active Low Gain
Iridium Certus 350	352Kbps	352Kbps	High Gain
Iridium Certus 700	352Kbps	704Kbps	High Gain

Notes: Not all configurations shown in table – only Max Tx and Max Rx shown



IRIDIUM CERTUS BECOMING A REALITY

- Iridium manufacturing partners have been developing their products and are working to obtain on-air testing.
- Iridium is very pleased to relate the recent success of Collins Aerospace in their Certus development.

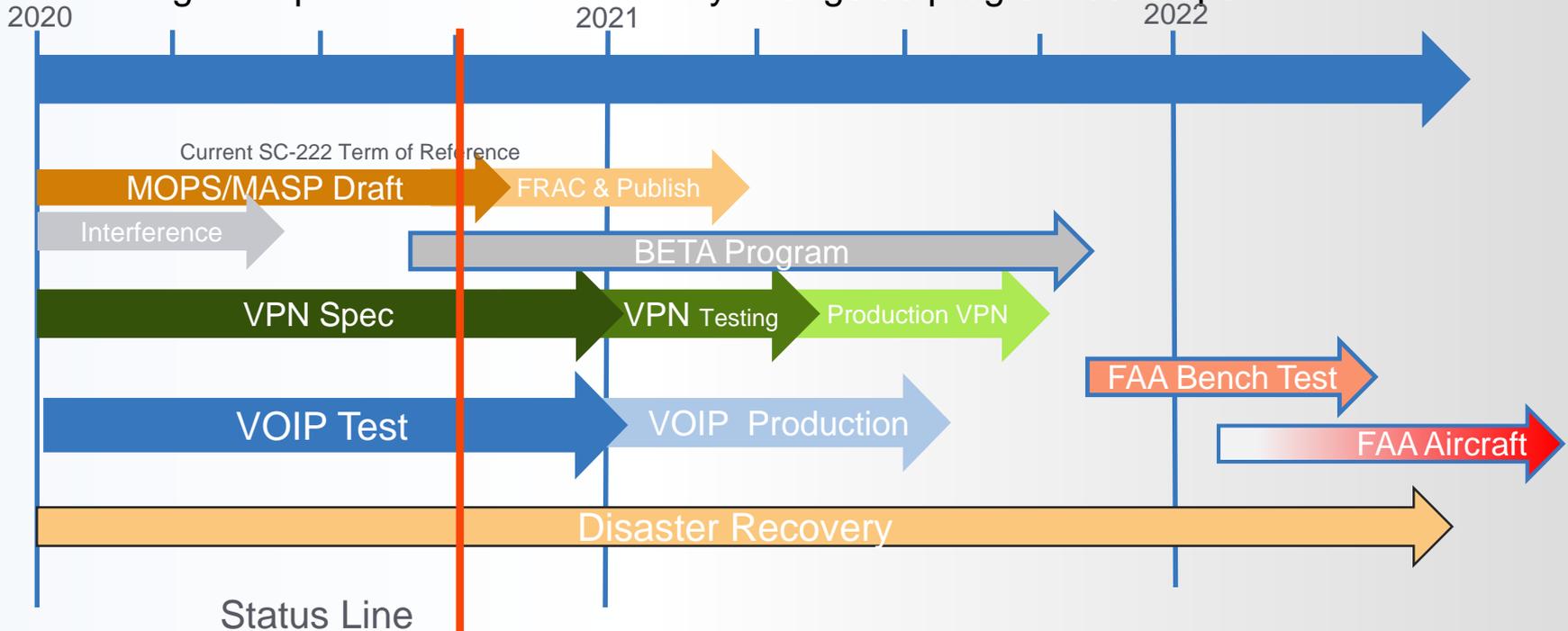
Recent Headline:

CEDAR RAPIDS, Iowa (Aug. 13, 2020) – Collins Aerospace Systems has reached a milestone in the development of its higher bandwidth Iridium Certus airborne satellite communications (SATCOM) system. Recently, Collins Aerospace was able to successfully connect and transmit data to an orbiting Iridium® satellite using the Iridium Certus service. The feat was accomplished using Collins Aerospace's new Active Low Gain Antenna (ALGA) — making it the first successful airborne equipment transmission of this type over the upgraded Iridium constellation's L-band broadband.



IRIDIUM AMS(R)S PROGRAM TIMELINE*

- Major Iridium program in development and the following high-level timeline indicates the culmination of these activities
- Timing is as per current view and may change as program develops

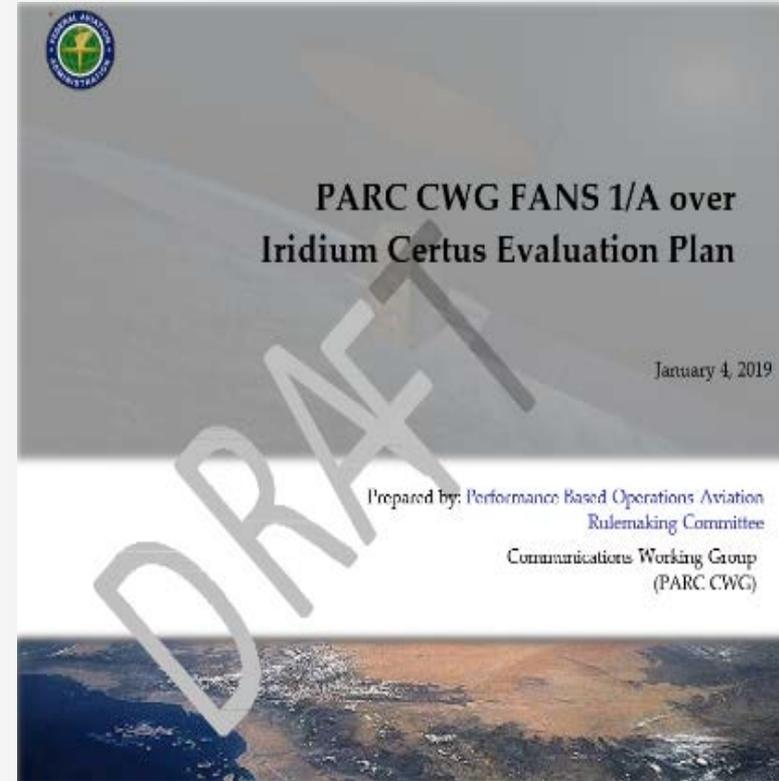


* Timing is subject to change based based on system design/developments



FAA IRIDIUM CERTUS EVALUATION PLAN - DRAFT

- Iridium created a draft FAA Evaluation Plan with the FAA PARC
- The evaluation shall be conducted against Required Surveillance Performance (RSP) 180 and Required Communication Performance (RCP) 240 for 75,000 messages
- Technical Performance (RCTP) will be gathered to show compliance to RCP130/RSP160 as well
- In addition, ATS Safety Voice shall be evaluated against RCP 400V requirements for 1,000 calls





DOMESTIC AIRSPACE INTERFERENCE ANALYSIS

SC-222 required an interference analysis to be performed as outlined in DO-343.

Iridium has completed the model based on the domestic European airspace separations where Iridium and Inmarsat SBB terminals may operate.

Conclusion:

- Iridium Certus is less susceptible to Inmarsat interference than legacy Iridium
- Specific details are available in SC-222 on the interference model and results
- Probability of an interference event (from Inmarsat IM) occurring is less than 10^{-6} where legacy Iridium was 10^{-4}



ATN OVER IRIDIUM CERTUS

- Iridium is working a very large program for the introduction of AMS(R)S services. Further actions include
 - ICAO SARPs – Class B SATCOM including Iridium Certus
 - ICAO DOC 9925 – for Iridium Certus as Class B SATCOM
 - New voice PBCS requirements based on single-stage dialing evaluation
- Iridium shall support Class B SATCOM requirements as required for domestic ATN services.
 - European enroute services for ATN and future US domestic programs
- Iridium has been supporting the industry developments of future ATN IPS service.

Iridium is committed to aviation and will continue to provide a real choice for operators to meet all airspace and Multi-Link operations.



THANK YOU!