

MEDIA RELEASE

AsiaSat gets second patent on “Methods and Systems for Improving Spectrum Utilisation for Satellite Communications”

Hong Kong, 19 September 2018 – Asia Satellite Telecommunications Company Limited ([AsiaSat](#) – SEHK: 1135) has received its second patent from the United States Patent and Trademark Office (USPTO), titled, “Methods and Systems for Improving Spectrum Utilisation for Satellite Communications” (US Patent No. 10,050,698 B2).

This new patent is about the methods and systems to mitigate the imbalance of uplink and downlink spectrum allocation in satellite communications. Through digitalising uplink spectrum with an onboard digital channelising processor (DCP), unused Fixed Satellite Service (FSS) guard bands (a bandwidth for separating two adjacent communications channels without interfering each other) in the uplink spectrum, whether from the same band or different bands such as C-, Ku- or Ka-band can be extracted, fully harvested and put into use.

This invention can prove to be of huge benefits given the imbalance of uplink and downlink spectrum allocation of the Ku-band frequency in the ITU (International Telecommunication Union) Region-3 (Asia-Pacific) coverage. According to the ITU Region-3 allocation, the Ku uplink spectrum has 750 MHz whereas the downlink spectrum has 1,000 MHz, denoting that there is 250 MHz bandwidth in the downlink spectrum unpaired with its uplink spectrum. This new patent grants a recovery of this unpaired spectrum, by installing an onboard DCP in the satellite payload to harvest the previously unused guard bands in the uplink spectrum.

In conventional satellite payload design, guard bands of at least 10% of the spectrum bandwidth are reserved for channel isolation. With the described methods and systems, the guard bands in the uplink spectrum can be harvested and put together as composite channels. While serving the purpose of maximising the utilisation of spectrum resources, the new available bandwidth can support customers in developing new applications that require flexibility and scalability, such as SCADA (Supervisory Control and Data Acquisition) and IoT (Internet of Things) products.

Dr. Roger Tong, Chief Executive Officer of AsiaSat says, “The spectrum for satellite communications is a scarce and valuable resource. The developments made by our strong engineering team have provided real-world value through the more efficient utilisation of our spectrum resources. This is the kind of innovation that drives AsiaSat and our staff to strive for better, for both our users and partners and their customers.”

Full patent specification is available on [AsiaSat website](#).

AsiaSat received its first patent, titled, “Methods and Systems for Providing High-speed Connectivity to Aircraft” (Pat. No. 9,425,888 B2) in August 2016. [Link](#) to the patent document.

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About AsiaSat

Asia Satellite Telecommunications Company Limited (AsiaSat) offers reliable satellite connectivity and media solutions to clients in the broadcast and telecom sectors focusing on enhancing the end-user experience with groundbreaking solutions and comprehensive satellite fleet. From traditional content distribution to headends, telcos, DTH, DTT platforms; Occasional Use; to new IP-based, hybrid OTT service, AsiaSat helps bridge the digital divide, aiming to be the foremost satellite solutions provider, instinctive partner of choice in Asia Pacific. AsiaSat is a wholly-owned subsidiary of Asia Satellite Telecommunications Holdings Limited, a company listed on The Stock Exchange of Hong Kong Limited (Stock Code: 1135). For more information, please visit www.asiasat.com | [LinkedIn](#) | [Facebook](#) | [Twitter](#) | [Youtube](#) | [Mobile App](#)

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