RESOLUTION 417 (REV.WRC-15)

Use of the frequency band 960-1 164 MHz by the aeronautical mobile (R) service

The World Radiocommunication Conference (Geneva, 2015),

considering

a) that WRC-07 allocated the frequency band 960-1 164 MHz to the aeronautical mobile (R) service (AM(R)S) in order to make available this frequency band for AM(R)S systems, and in doing so enabled further technical developments, investments and deployment;

b) that the frequency band 960-1 164 MHz is currently allocated to the aeronautical radionavigation service (ARNS);

c) that new technologies are being developed to support communications and air navigation, including airborne and ground surveillance applications;

d) that the allocation of the frequency band 960-1 164 MHz to the aeronautical mobile (R) service is intended to support the introduction of applications and concepts in air traffic management which are data intensive and which could support data links that carry safety critical aeronautical data;

e) that in Armenia, Azerbaijan, Belarus, Bulgaria, China, the Russian Federation, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, the frequency band 960-1 164 MHz is also used by systems in the ARNS for which standards and recommended practices (SARPs) have not been developed nor published by the International Civil Aviation Organization (ICAO);

f) that, furthermore, the frequency band 960-1 164 MHz is also used by a non-ICAO system operating in the ARNS that has characteristics similar to those of ICAO standard distance measuring equipment,

recognizing

a) that Annex 10 to the Convention on International Civil Aviation contains SARPs for aeronautical radionavigation and radiocommunication systems used by international civil aviation;

b) that all compatibility issues between the ICAO Standard Universal Access Transceiver (UAT) operating under the AM(R)S allocation and other systems which operate in the same frequency range, excluding the system identified in *considering e)*, have been addressed;

c) that in the frequency band 1 024-1 164 MHz the sharing conditions are more complex than in the frequency band 960-1 024 MHz,

noting

a) that the development of compatibility criteria between AM(R)S systems proposed for operations in the frequency band 960-1 164 MHz and ICAO-standardized aeronautical systems in this frequency band is the responsibility of ICAO;

b) that the development of compatibility criteria between AM(R)S systems operating in the frequency band 960-1 164 MHz and radionavigation-satellite service (RNSS) receivers on the same aircraft is the responsibility of ICAO;

c) that practical operational measures should be developed to facilitate the coordination between AM(R)S systems and non-ICAO ARNS systems,

resolves

1 that any AM(R)S system operating in the frequency band 960-1 164 MHz shall meet SARPs requirements published in Annex 10 to the Convention on International Civil Aviation;

2 that, with the exception of the system described in *recognizing b)*, any operation of AM(R)S systems in the frequency band 960-1 164 MHz with aircraft stations operating within 934 km or/and ground stations operating within 465 km from the border of the territory of Armenia, Azerbaijan, Belarus, Bulgaria, China, the Russian Federation, Kazakhstan, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine is subject to coordination with the concerned administrations of the countries listed above for the protection of aeronautical radionavigation systems (see *considering e)*) operating in the same frequency band in these countries. An administration not responding within a four-month period after receiving a request to seek agreement shall be regarded as unaffected;

3 the system described in *recognizing b)* shall not cause harmful interference to, or claim protection from, the systems described in *considering e)*;

4 that administrations authorizing AM(R)S systems in the frequency band 960-1 164 MHz shall ensure compatibility with systems indicated under *considering f)* whose characteristics are described in Annex 1 of Recommendation ITU-R M.2013-0;

5 that such compatibility between any AM(R)S systems in the frequency band 960-1 164 MHz and systems in *considering f)* is a matter to be dealt with in ICAO;

6 that administrations intending to implement AM(R)S in the frequency band 960-1 164 MHz, in order not to cause harmful interference to the RNSS in the frequency band 1 164-1 215 MHz, shall utilize the criteria set forth below:

– any ground station operating under the AM(R)S allocation in the frequency band 960-1 164 MHz shall limit its maximum equivalent isotropically radiated power (e.i.r.p.) to the values presented in the following table:

Emissions in the frequency band 960-1 164 MHz (Maximum allowable e.i.r.p. in the frequency band 960-1 164 MHz as a function of the carrier central frequency) for non-pulsed AM(R)S ground station transmissions				**Emissions in the frequency band 1 164-1 215 MHz**	
AM(R)S centre frequency < 1 091 MHz	AM(R)S centre frequency 1 091-1 119 MHz	AM(R)S centre frequency 1 119-1 135 MHz	AM(R)S centre frequency 1 135-1 164 MHz	1 164-1 197.6 MHz	1 197.6-1 215 MHz
51.6 dBW	Linearly decreasing from 51.6 to 23.6 dBW	Linearly decreasing from 23.6 to −2.4 dBW	Linearly decreasing from −2.4 to −68.4 dBW	−90.8 dBW in any 1 MHz of the frequency band 1 164-1 197.6 MHz	−90.8 dBW in any 1 MHz of the frequency band 1 197.6-1 215 MHz

– any airborne station operating under the AM(R)S allocation in the frequency band 960-1 164 MHz shall limit its maximum e.i.r.p. to the values presented in the following table:

Emissions in the frequency band 960-1 164 MHz (Maximum allowable e.i.r.p. in the frequency band 960-1 164 MHz as a function of the carrier central frequency) for non-pulsed AM(R)S airborne station transmissions				**Emissions in the frequency band 1 164-1 215 MHz**	
AM(R)S centre frequency < 1 091 MHz	AM(R)S centre frequency 1 091-1 119 MHz	AM(R)S centre frequency 1 119-1 135 MHz	AM(R)S centre frequency 1 135-1 164 MHz	1 164-1 197.6 MHz	1 197.6-1 215 MHz
55.3 dBW	Linearly decreasing from 55.3 to 27.3 dBW	Linearly decreasing from 27.3 to −1.3 dBW	Linearly decreasing from −1.3 to −64.7 dBW	−84 dBW in any 1 MHz of the frequency band 1 164-1 197.6 MHz	−92.4 dBW in any 1 MHz of the frequency band 1 197.6-1 215 MHz

7 that future AM(R)S systems operating in the frequency band 960-1 164 MHz with pulsed emissions shall demonstrate that they limit AM(R)S ground and airborne station emission characteristics in order to provide protection to RNSS systems equivalent to the protection provided by non-pulsed emission AM(R)S ground and airborne stations operating in the 960-1 164 MHz frequency band at the maximum e.i.r.p. levels in *resolves* 6 above,

instructs the Secretary-General

to bring this Resolution to the attention of ICAO.