COMPASS View on Compatibility and Interoperability

ICG Working Group A Meeting on GNSS Interoperability

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China National Administration of GNSS and Applications

(CNAGA)

中国卫星导航定位应用管理中心
China National Administration of GNSS and Applications (CNAGA)

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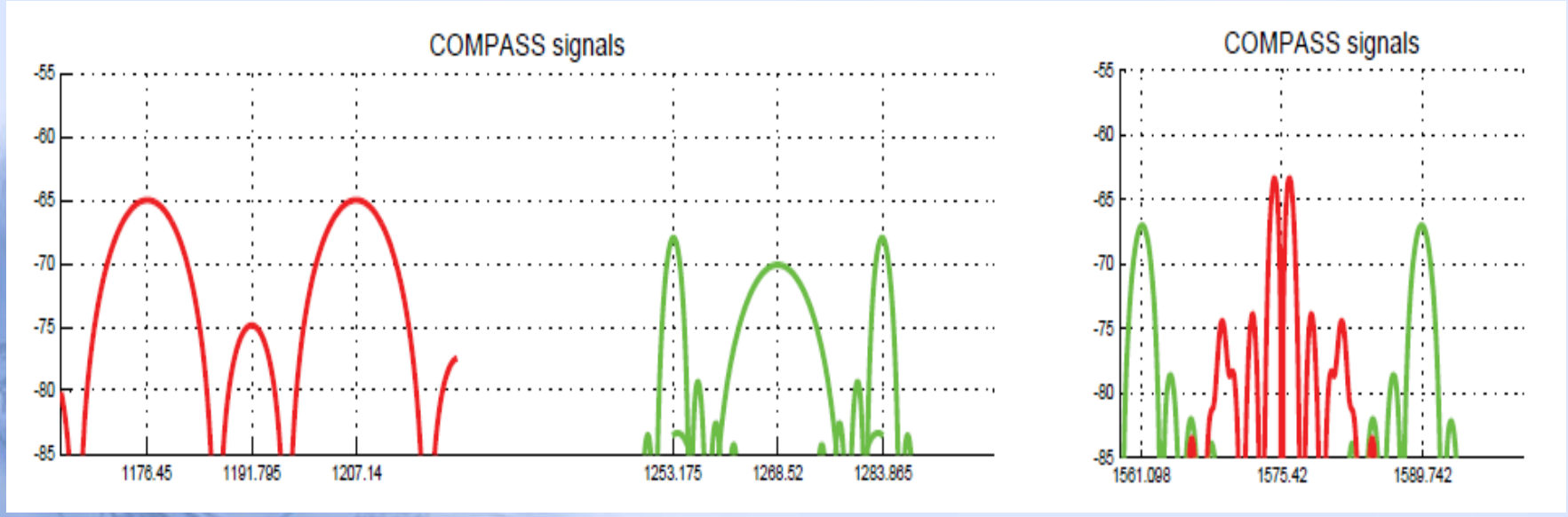
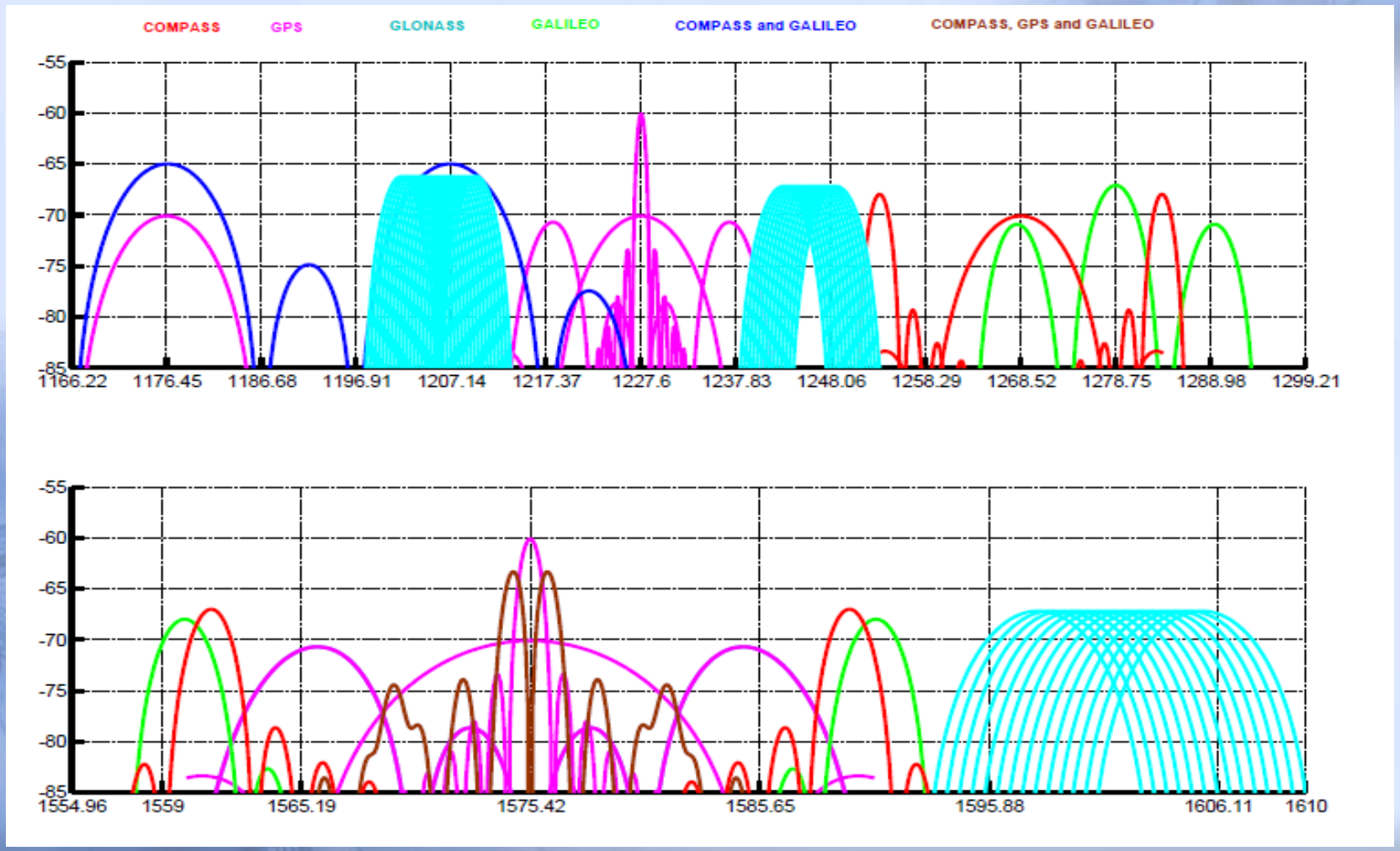
COMPASS Signals Updated

Component	Carrier frequency (MHz)	Chip rate (cps)	Data/Symbol rate (bps/sps)	Modulation Type	Service type
$B1\text{-}C_D$	1575.42	1.023	50/100	MBOC(6,1,1/11)	OS
$B1\text{-}C_P$			No		
$B1_D$		2.046	50/100	BOC（14，2）	AS
$B1_P$			No		
$B2a_D$	1191.795	10.23	25/50	AltBOC(15,10)	OS
$B2a_P$			No		
$B2b_D$			50/100		
$B2b_P$			No		
B3	1268.52	10.23	500bps	QPSK(10)	AS
$B3\text{-}A_D$		2.5575	50/100	BOC(15,2.5)	AS
$B3\text{-}A_P$			No		

COMPASS Signals



GNSS signals



View on Compatibility

- **spectral separation between each system's Authorized Service signals and other system's Open Service signals**
  - **Beneficial for all GNSS systems and users**
- **ITU provides a framework for discussion on radiofrequency compatibility**

View on Compatibility

- **the Authorized Service signal frequency overlapping is unavoidable**
  - **rational, equitable, efficient and economical use of the radio-frequency spectrum**
  - **some cases of frequency overlapping between Authorized Service signals**
  - **the requirement of GNSS systems developing in the future**

View on Interoperability

- **Brings about better capabilities at the user level**
- **to publicize the signal-in-space interface control documents is necessary**
- **to steer the geodetic reference system and time scale to international standards is important**

View on Interoperability

- **common max/min received power level can improve signal to noise environment for multi-system receivers**
- **frequency diversity can improve resistance to radiofrequency interference**
- **Suggestion: to quantitative evaluation of GNSS interoperability**

GNSS Service Performance Commitments

- **Every GNSS provider should establish documented civil performance commitments to inform users about minimum levels of service when the GNSS system has the full operational capability**

Thank you!