ITU World Radiocommunication Seminar

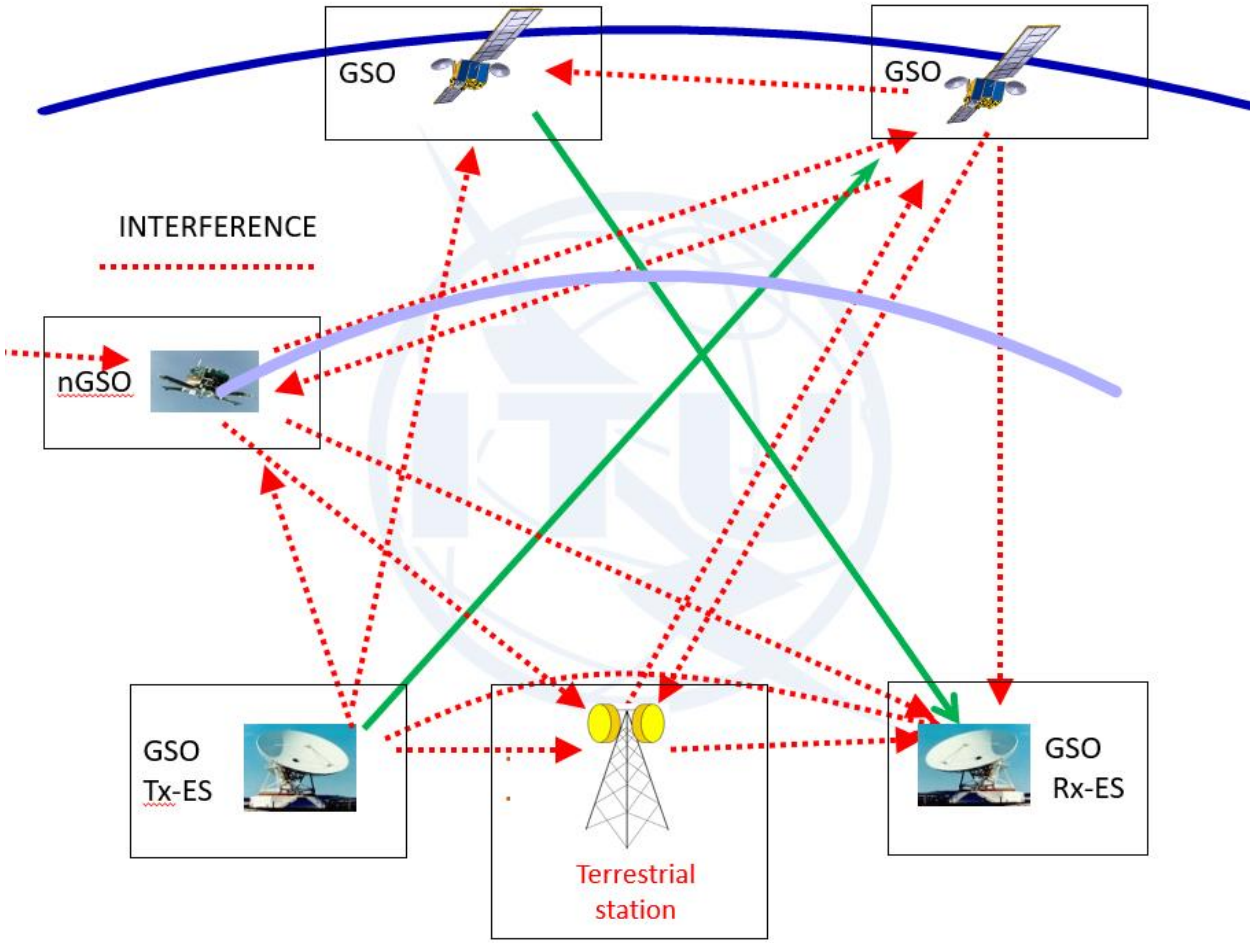
COORDINATION IDENTIFICATION UNDER NOS. 9.11A and 9.21

GSO and NGSO SATELLITE NETWORKS
FREQUENCY OVERLAP PROGRAM
GIBC / FOS and FOT

2-6 December 2024, Geneva, Switzerland

COORDINATION IDENTIFICATION UNDER NOS. 9.11A and 9.21 in GIBC/FOS

- **NGSO to NGSO : 9.11A/9.12**
- **NGSO to GSO : 9.11A/9.12A**
- **GSO to NGSO : 9.11A/9.13**
- **GSO/NGSO to GSO : 9.21/A**
- **GSO/NGSO to NGSO : 9.21/B**
- **9.21: the requirement to seek the agreement of other administrations is included in a footnote to the Table of Allocation**



Forms of Coordination

- **No.9.6:Before BiU or Notify in cases below shall effect coordination (No.9.27/AP 5 -Table 5-1)**

Cases	Provision
NGSO to NGSO **Provision** No. 9.12: Non-GSO in respect of Non-GSO. Frequency bands for which a footnote refers to No. **9.11A** or No. **9.12.**	9.11A/9.12
NGSO to GSO **Provision** No. 9.12A: Non-GSO in respect of GSO. Frequency bands for which a footnote refers to No. **9.11A** or No. **9.12A.**	9.11A/9.12A
GSO to NGSO **Provision** No. 9.13: GSO in respect of Non-GSO. Frequency bands for which a footnote refers to No. **9.11A** or No. **9.13.**	9.11A/9.13
the requirement to seek the agreement of other administrations is included in a footnote to the Table of Allocation **Provision** No. 9.21/A : GSO/Non-GSO in respect of GSO Bandwidths overlap **Provision** No. 9.21/B : GSO/Non-GSO in respect of Non-GSO Bandwidths overlap	9.21/A, 9.21/B

Footnote refers Nos.9.11A or 9.21

No.9.11A (Coordination examined under No.11.32)

- **Example: 5.208** The use of the band 137-138 MHz by the **mobile-satellite service** is subject to coordination under No. **9.11A**.

No.9.21 (Agreement examined under No.11.31)

- **Example: 5.286** The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to **agreement** obtained under No.9.21


CHAPTER II – Frequencies RR5-1

ARTICLE 5

Frequency allocations

Introduction

TABLE 5-1 (*continued*) (REV.WRC-23)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. **9.12** Non-GSO/ non-GSO	A station in a non-GSO satellite network in the frequency bands for which a footnote refers to No. **9.11A** or No. **9.12**, in respect of any other non-GSO satellite network, with the exception of coordination between earth stations operating in the opposite direction of transmission	Frequency bands for which a footnote refers to No. **9.11A** or No. **9.12**	Bandwidths overlap	Check by using the assigned frequencies and bandwidths	
No. 9.12A Non-GSO/ GSO	A station in a non-GSO satellite network in the frequency bands for which a footnote refers to No. 9.11A or No. 9.12A, in respect of any GSO satellite network, with the exception of coordination between earth stations operating in the opposite direction of transmission	Frequency bands for which a footnote refers to No. 9.11A or No. 9.12A	Bandwidths overlap	Check by using the assigned frequencies and bandwidths	

Criteria and methods for identification

Ap 5 Table 5-1: Forms of coordination, Frequency bands, thresholds/conditions:

Criteria and methods for identification

Ap 5 Table 5-1: Forms of coordination, Frequency bands, thresholds/conditions:

TABLE 5-1 (*continued*) (REV.WRC-23)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. **9.13** GSO/ non-GSO	A station in a GSO satellite network in the frequency bands for which a footnote refers to No. **9.11A** or No. **9.13**, in respect of any other non-GSO satellite network, with the exception of coordination between earth stations operating in the opposite direction of transmission	Frequency bands for which a footnote refers to No. **9.11A** or No. **9.13**	1) Bandwidths overlap 2) For the band 1 668-1 668.4 MHz with respect to MSS network coordination with **SRS** (passive) networks, in addition to bandwidth overlap, the e.i.r.p. spectral density of mobile earth stations in a GSO network of the mobile-satellite service operating in this band exceeds −2.5 dB(W/4 kHz) or the power spectral density delivered to the mobile earth station antenna exceeds −10 dB(W/4 kHz)	1) Check by using the assigned frequencies and bandwidths 2) Check by using MSS network Appendix **4** data	

Ap 5 Table 5-1: Forms of coordination, Frequency bands, thresholds/conditions:

Criteria and methods for identification

No. **9.21** Terrestrial, GSO, non-GSO/ terrestrial, GSO, non-GSO	A station of a service for which the requirement to obtain the agreement of other administrations is included in a footnote to the Table of Frequency Allocations referring to No. **9.21**	Band(s) indicated in the relevant footnote except 13.4-13.65 GHz in Region 1 13.4-13.65 GHz in Region 1 indicated in No. **5.499A**	Incompatibility established by the use of Appendices **7**, **8**, technical Annexes of Appendices **30** or **30A**, pfd values specified in some of the footnotes, other technical provisions of the Radio Regulations or ITU-R Recommendations, as appropriate i) Bandwidth overlap, and ii) any network in the space research service (SRS) with a space station within an orbital arc of ±20° of the nominal orbital position of a proposed network in the FSS	Methods specified in, or adapted from, Appendices **7**, **8**, **30**, **30A**, other technical provisions of the Radio Regulations or ITU-R Recommendations	

TABLE 5-1 (*end*) (Rev.WRC-19)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks

RoP TABLE 9.11A-1

TABLE 9.11A-1 (*continued*)

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
1 621.35–1 626.5	**5.365**	MARITIME MOBILE SATELLITE	↓	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE (Region 2 (except country in No. **5.370**), countries in No. **5.369**) AERONAUTICAL MOBILE-SATELLITE (R) (**5.367**)	↑ ↓↑ ↔	**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.359**)	
1 610-1 613.8	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	---		**9.12, 9.12A, 9.13**	---	
1 613.8-1 621.35	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	Mobile-satellite	↓	**9.12, 9.12A, 9.13**	---	
1 621.35-1 626.5	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	Mobile-satellite except maritime mobile satellite	↓	**9.12, 9.12A, 9.13**	---	
1 613.8-1 621.35	**5.365**	Mobile-satellite	↓	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	**9.12, 9.12A, 9.13, 9.14**	Fixed (**5.355**)	
1 621.35-1 626.5	**5.365**	Mobile-satellite except maritime mobile satellite	↓	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	**9.12, 9.12A, 9.13, 9.14**	Fixed (**5.355**)	
1 626.5-1 660.5	**5.354**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
1 668-1 668.4	**5.379B**	MOBILE-SATELLITE	↑	SPACE RESEARCH		**9.12, 9.12A, 9.13**		
1 668.4-1 670	**5.379B**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
1 670-1 675	**5.379B**	MOBILE-SATELLITE	↑	METEOROLOGICAL-SATELLITE	↓	**9.12, 9.12A, 9.13**	---	6
1 980-2 010	**5.389A**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
2 010-2 025	**5.389C**	MOBILE-SATELLITE (Region 2)	↑	---		**9.12, 9.12A, 9.13**	---	
2 160-2 170	**5.389C**	MOBILE-SATELLITE (Region 2)	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED (Region 2) MOBILE (Region 2) (see also No. **5.389E**)	
2 170-2 200	**5.389A**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE (see also No. **5.389F**)	
2 483.5-2 500	**5.402**	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE RADIOLOCATION (Region 2, Region 3) (see also No. **5.398A** & **5.399**)	
2 483.5-2 500	**5.402**	Radiodetermination-satellite (Region 1 and Region 3)	↓	---		**9.12, 9.12A, 9.13**	--- (See No. **5.399**)	
2 500-2 520	**5.414**	MOBILE-SATELLITE (Region 3)	↓	FIXED SATELLITE (Region 2 and Region 3), RADIODETERMINATION-SATELLITE (**5.404**)	↓	**9.12, 9.12A, 9.13, 9.14*** * Only applicable to MSS in J and IND (see No. **5.414A**)	FIXED LAND MOBILE MARITIME MOBILE	

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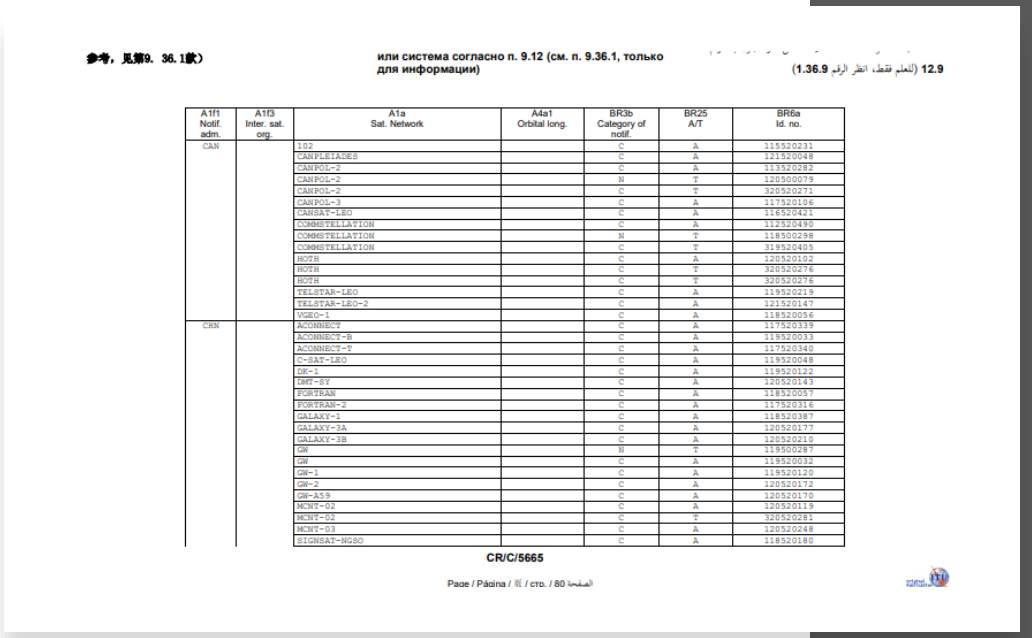
Example of No. 9.36.1, identification of satellite networks/systems for information only and confirmation of identification for 9.12, 9.12A and 9.13



参考，见第9. 36. 1款）

или система согласно п. 9.12 (см. п. 9.36.1, только для информации)

(للعلم فقط، انظر الرقم 9.36.1) 12.9

A1f1 Notif. adm.	A1f3 Inter. sat. org.	A1a Sat. Network	A4a1 Orbital long.	BR3b Category of notif.	BR25 A/T	BR6a Id. no.
CAN		102		C	A	115520231
		CANPLEIADES		C	A	121520048
		CANPOL-2		C	A	113520282
		CANPOL-2		N	T	120500079
		CANPOL-2		C	T	320520271
		CANPOL-3		C	A	117520106
		CANSAT-LEO		C	A	116520421
		COMMSTELLATION		C	A	112520490
		COMMSTELLATION		N	T	118500298
		COMMSTELLATION		C	T	319520405
		HOTH		C	A	120520102
		HOTH		C	T	320520276
		HOTH		C	T	320520276
		TELSTAR-LEO		C	A	119520219
		TELSTAR-LEO-2		C	A	121520147
		VGEO-1		C	A	118520056
CHN		ACONNECT		C	A	117520339
		ACONNECT-B		C	A	119520033
		ACONNECT-T		C	A	117520340
		C-SAT-LEO		C	A	119520048
		DK-1		C	A	119520122
		DMT-SY		C	A	120520143
		FORTRAN		C	A	118520057
		FORTRAN-2		C	A	117520316
		GALAXY-1		C	A	118520387
		GALAXY-3A		C	A	120520177
		GALAXY-3B		C	A	120520210
		GW		N	T	119500287
		GW		C	A	119520032
		GW-1		C	A	119520120
		GW-2		C	A	120520172
		GW-A59		C	A	120520170
		MCNT-02		C	A	120520119
		MCNT-02		C	T	320520281
		MCNT-03		C	A	120520248
		SIGNSAT-NGSO		C	A	118520180

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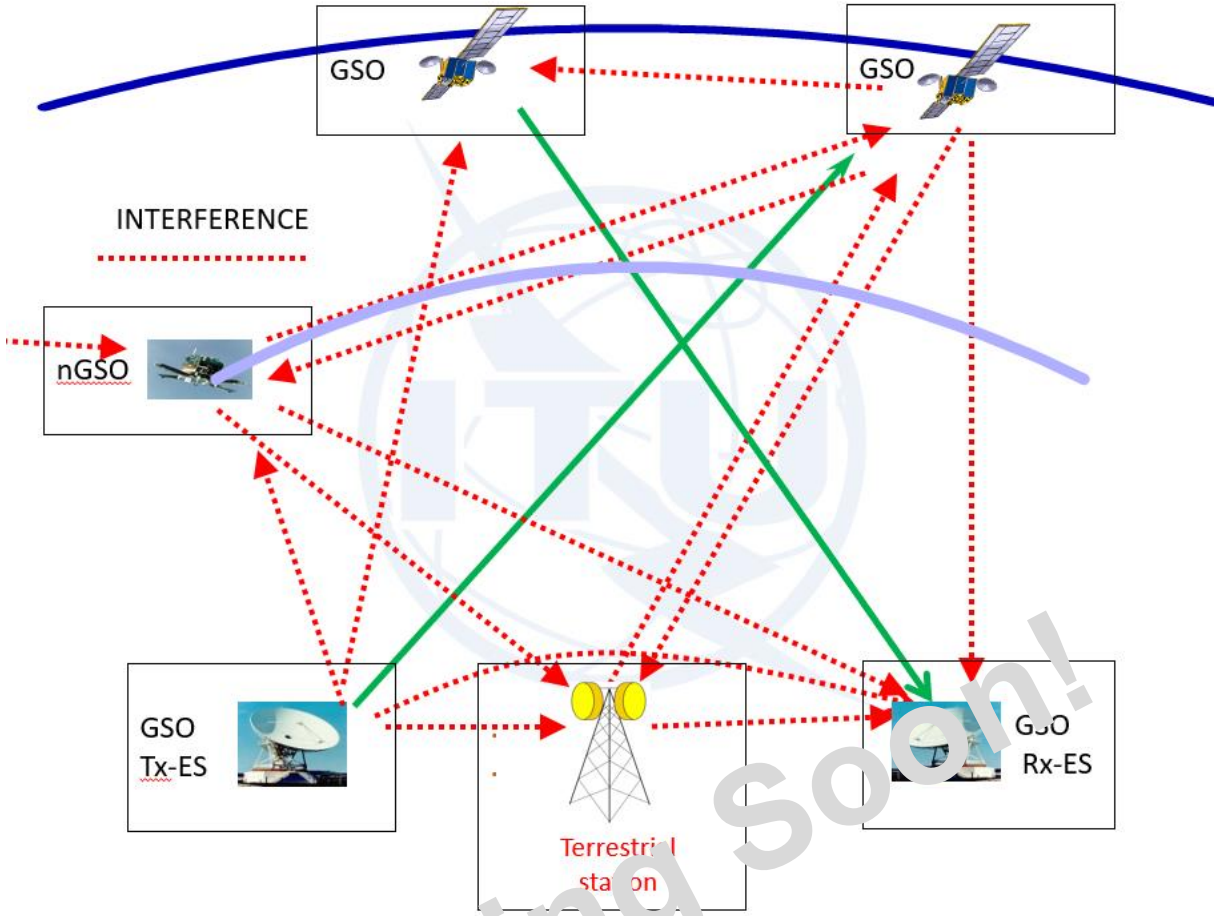
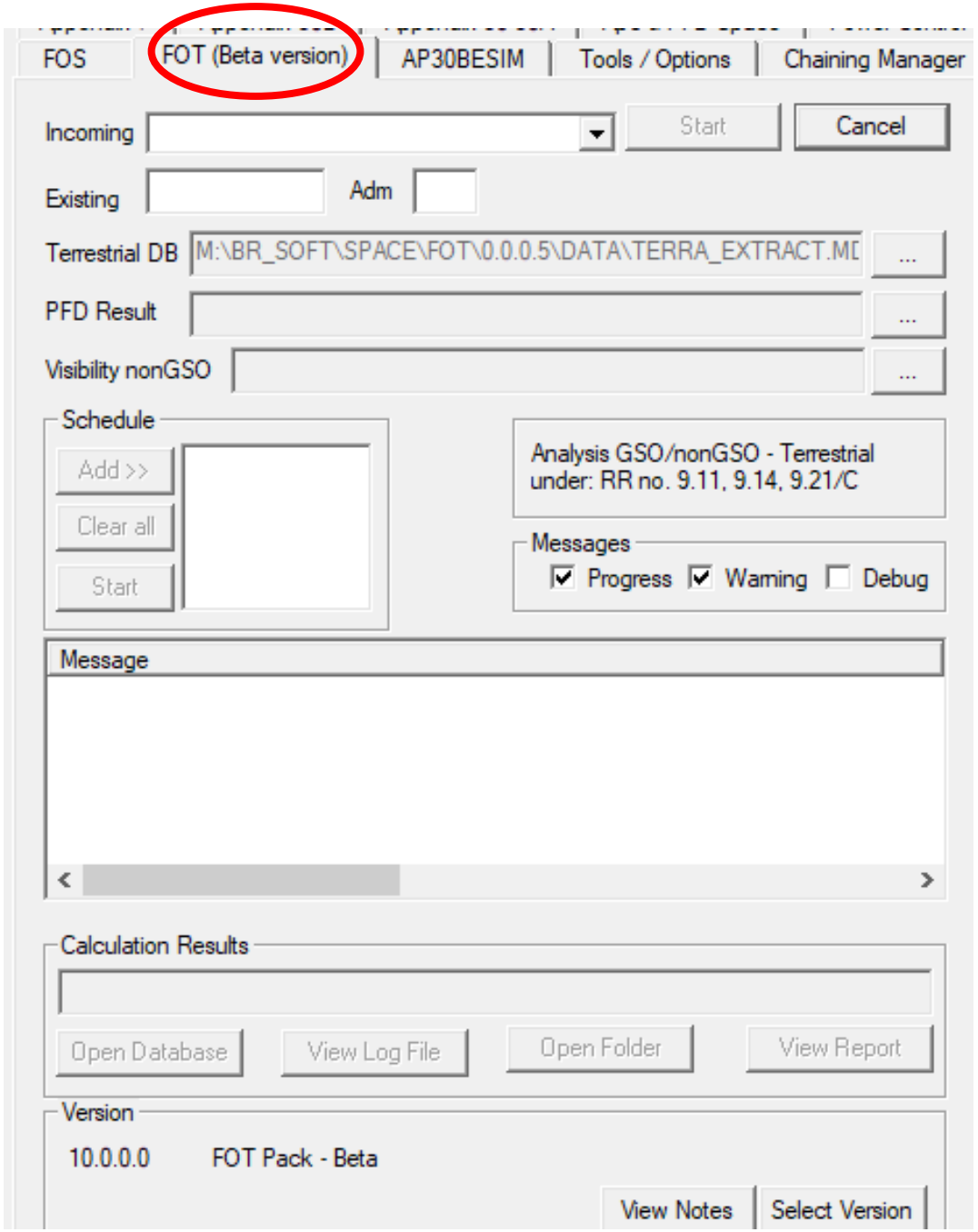
COORDINATION IDENTIFICATION UNDER NOS. 9.11A and 9.21

GIBC/FOT Coming Soon!

- **GSO/NGSO to Terrestrial : 9.11A/9.14**
- **GSO/NGSO to Terrestrial : 9.11**
- **GSO/NGSO to Terrestrial : 9.21/C**
- **9.21: the requirement to seek the agreement of other administrations is included in a footnote to the Table of Allocation**





COORDINATION IDENTIFICATION UNDER NOS. 9.11A and 9.21

GIBC/FOT Coming Soon!

- **GSO/NGSO to Terrestrial : 9.11A/9.14**
- **GSO/NGSO to Terrestrial : 9.11**
- **GSO/NGSO to Terrestrial : 9.21/C**
- **9.21: the requirement to seek the agreement of other administrations is included in a footnote to the Table of Allocation**

GIBC/ FOT Nos: 9.14 and 9.21/C

Ap 5 Table 5-1

TABLE 5-1 (*continued*) (Rev.WRC-23)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. **9.14** Non-GSO/ terrestrial, GSO/ terrestrial	A space station in a satellite network in the frequency bands for which a footnote refers to No. **9.11A** or to No. **9.14**, in respect of stations of terrestrial services where threshold(s) is (are) exceeded	1) Frequency bands for which a footnote refers to No. **9.11A**; or 2) 11.7-12.2 GHz (Region 2 GSO FSS) 3) 5 030-5 091 MHz	1) See § 1 of Annex 1 to this Appendix; In the bands specified in No. **5.414A**, the detailed conditions for the application of No. **9.14** are provided in No. **5.414A** for MSS networks or 2) In the band 11.7-12.2 GHz (Region 2 GSO FSS): -124 dB(W/(m^2 · MHz)) for $0° \le \theta \le 5°$ $-124 + 0.5\ (\theta - 5)$ dB(W/(m^2 · MHz)) for $5° < \theta \le 25°$ -114 dB(W/(m^2 · MHz)) for $\theta > 25°$ where θ is the angle of arrival of the incident wave above the horizontal plane (degrees) 3) Bandwidth overlap	1) See § 1 of Annex 1 to this Appendix	

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Footnotes

5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. **9.21**.

GIBC/ FOT Nos: 9.11

TABLE 5-1 (*continued*) (REV.WRC-23)

Reference of Article 9	Case	Frequency bands (and Region) of the service for which coordination is sought	Threshold/condition	Calculation method	Remarks
No. **9.11** GSO, non-GSO/ terrestrial	A space station in the BSS in any band shared on an equal primary basis with terrestrial services and where the BSS is not subject to a Plan, in respect of terrestrial services	1 452-1 492 MHz 2 310-2 360 MHz (No. **5.393**) 2 535-2 655 MHz (No. **5.418**) 17.7-17.8 GHz (Region 2) 74-76 GHz	Bandwidths overlap: The detailed conditions for the application of No. **9.11** in the frequency bands 2 630-2 655 MHz and 2 605-2 630 MHz are provided in Resolution **539 (Rev.WRC-19)** for non-GSO BSS (sound) systems pursuant to No. **5.418**, and in No. **5.418** for GSO BSS (sound) networks pursuant to those provisions. The detailed conditions for the application of No. **9.11** in the frequency band 1 452-1 492 MHz are provided in Resolution **761 (Rev.WRC-19)** for Regions 1 and 3. The coordination thresholds for the application of No. **9.11** in the frequency band 17.7-17.8 GHz correspond to the pfd limits specified in Table **21-4** for the FSS in the same frequency band.	Check by using the assigned frequencies and bandwidths	

RoP TABLE 9.11A-1

TABLE 9.11A-1 (*continued*)

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
1 621.35–1 626.5	**5.365**	MARITIME MOBILE SATELLITE	↓	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE (Region 2 (except country in No. **5.370**), countries in No. **5.369**) AERONAUTICAL MOBILE-SATELLITE (R) (**5.367**)	↑ ↓↑ ↔	**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.359**)	
1 610-1 613.8	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	---		**9.12, 9.12A, 9.13**	---	
1 613.8-1 621.35	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	Mobile-satellite	↓	**9.12, 9.12A, 9.13**	---	
1 621.35-1 626.5	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	Mobile-satellite except maritime mobile satellite	↓	**9.12, 9.12A, 9.13**	---	
1 613.8-1 621.35	**5.365**	Mobile-satellite	↓	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	**9.12, 9.12A, 9.13, 9.14**	Fixed (**5.355**)	
1 621.35-1 626.5	**5.365**	Mobile-satellite except maritime mobile satellite	↓	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	**9.12, 9.12A, 9.13, 9.14**	Fixed (**5.355**)	
1 626.5-1 660.5	**5.354**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
1 668-1 668.4	**5.379B**	MOBILE-SATELLITE	↑	SPACE RESEARCH		**9.12, 9.12A, 9.13**		
1 668.4-1 670	**5.379B**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
1 670-1 675	**5.379B**	MOBILE-SATELLITE	↑	METEOROLOGICAL-SATELLITE	↓	**9.12, 9.12A, 9.13**	---	6
1 980-2 010	**5.389A**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
2 010-2 025	**5.389C**	MOBILE-SATELLITE (Region 2)	↑	---		**9.12, 9.12A, 9.13**	---	
2 160-2 170	**5.389C**	MOBILE-SATELLITE (Region 2)	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED (Region 2) MOBILE (Region 2) (see also No. **5.389E**)	
2 170-2 200	**5.389A**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE (see also No. **5.389F**)	
2 483.5-2 500	**5.402**	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE RADIOLOCATION (Region 2, Region 3) (see also No. **5.398A** & **5.399**)	
2 483.5-2 500	**5.402**	Radiodetermination-satellite (Region 1 and Region 3)	↓	---		**9.12, 9.12A, 9.13**	--- (See No. **5.399**)	
2 500-2 520	**5.414**	MOBILE-SATELLITE (Region 3)	↓	FIXED SATELLITE (Region 2 and Region 3), RADIODETERMINATION-SATELLITE (**5.404**)	↓	**9.12, 9.12A, 9.13, 9.14*** * Only applicable to MSS in J and IND (see No. **5.414A**)	FIXED LAND MOBILE MARITIME MOBILE	

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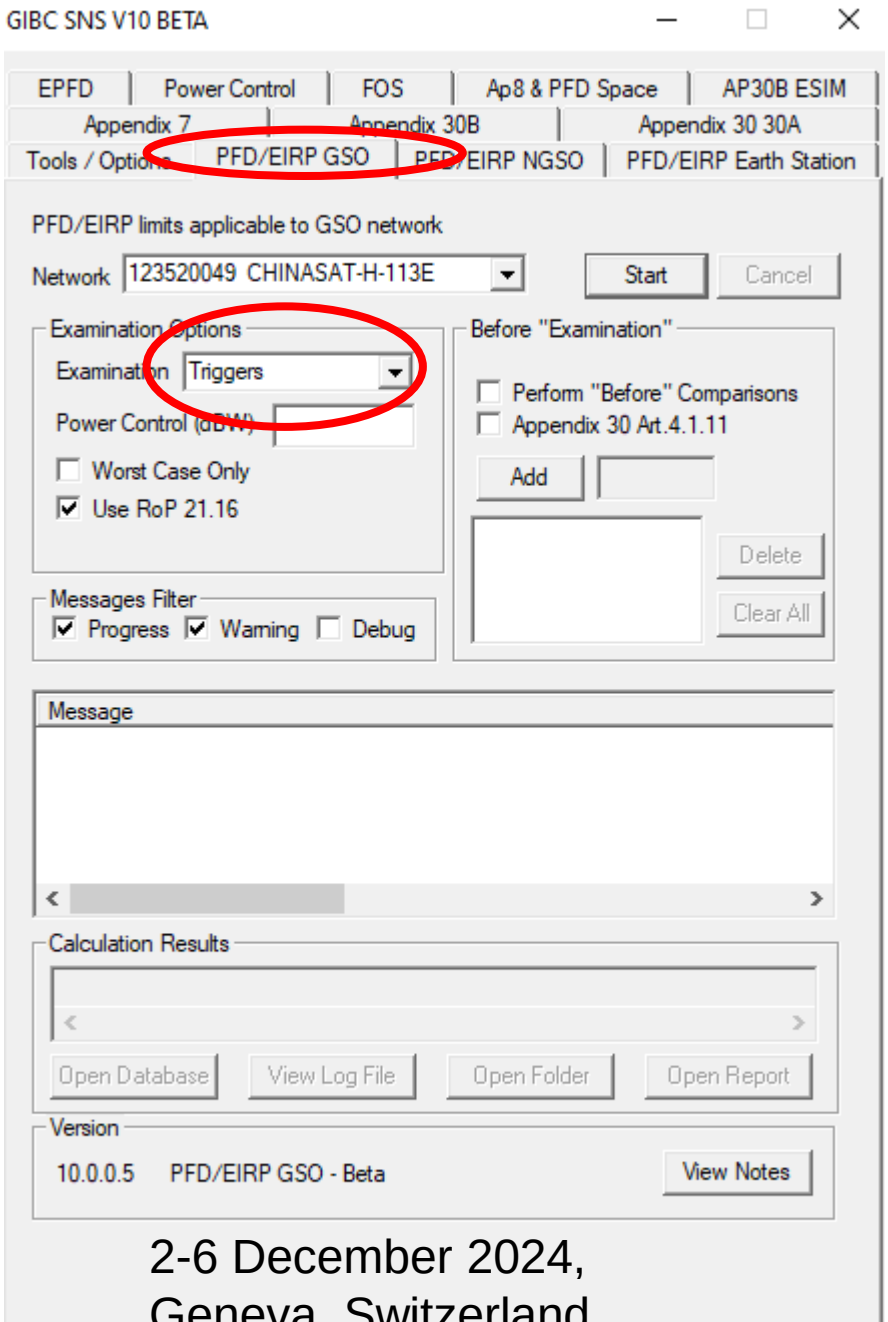
GIBC / FOT Trigger Step1

9.14[P]	2170 - 2200 11700 - 12200

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SPACE STATION PFD VALUES WILL BE CHECKED AGAINST COORDINATION LIMITS AND ROP21.16 IS ONLY APPLIED WHERE APPLICABLE

PFD EXAMINATION WITH ROP21.16    C  123520049  CHN       CHINASAT-H-113E              113.00 DEG 0.10 0.10  10.04.2023

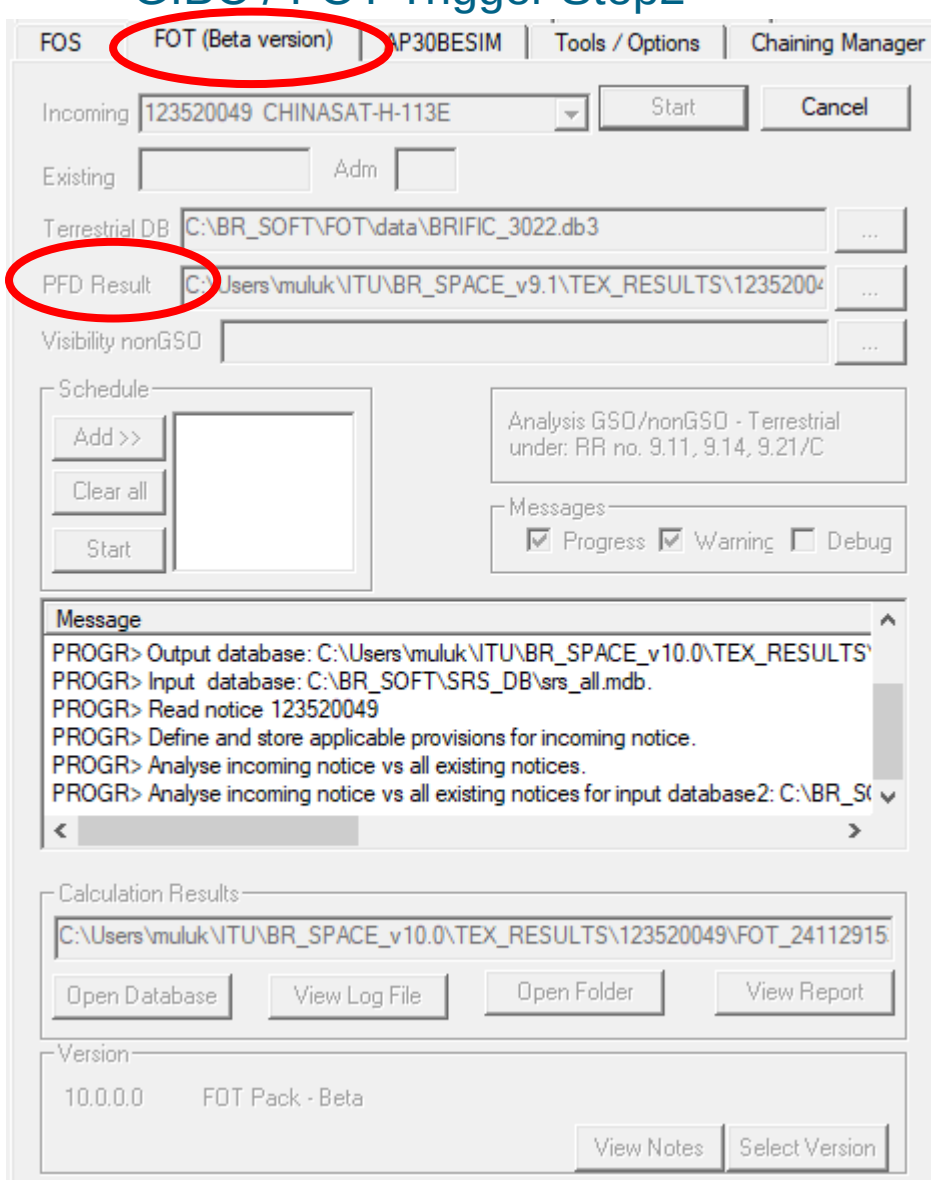
SDG       E  FIXED              GAIN MAX:   44.0 DBi  POINTING ACC. 0.20 DEG

  123635806  EI/CP          2D DATE: 10.04.2023 (DP)                A-
    2185.00000 MHZ       30000 KHZ  EMISS: 5M00G7W--    PEP MAX:   27.7 DBW  PWR DS MAX:  -39.0 DBW/HZ
        PROV: (53) RR 5.389A           SRV: FSS, BSS, RDSS, MSS       PROT AREA: ALL WORLD                                  REF.BW: 1.000 MHZ
        WORST CASE: 113E0000 00N0000/  90.0  INS      GAIN:   44.0 DB   PFD:  -97.1   PFDL: -118.0   PFDX:   20.9   FINDING: N-    9.14
        AFG         18.4  AFS         19.6  AFS/MRN     19.6  ARM         18.9  ARS         19.7  AUS         20.0  AUS/CHR     20.3
        AUS/HMD     18.6  AUS/ICO     20.0  AUS/NFK     18.3  AZE         18.4  BGD         19.5  BHR         18.8  BRM         20.1
        BRU         20.7  BTN         19.2  CBG         20.3  CLN         19.3  COM         18.0  CYP         19.6  DJI         17.6
        EGY         19.7  ERI         19.7  ETH         19.7  F  /AMS     18.5  F  /CRO     17.6  F  /KER     18.7  F  /MYT     18.2
        F  /NCL     18.5  F  /REU     18.8  F  /WAL     17.8  FJI         19.1  FSM         19.7  G  /DGA     18.9  GEO         19.7
        IND         19.9  INS         20.9  IRN         19.1  IRQ         19.7  ISR         19.7  J           19.6  JOR         19.7
        KAZ         19.1  KEN         19.7  KGZ         18.4  KIR         19.5  KIR/PHX     19.7  KOR         19.2  KRE         19.0
        KWT         18.4  LAO         20.2  LBN         19.7  MAU         18.2  MAU/ROD     18.4  MDG         19.1  MHL         18.5
        MLA         20.9  MLD         19.0  MNG         18.8  MOZ         19.7  MWI         19.7  NPL         19.1  NRU         18.3
        NZL/CKH     19.6  NZL/NIU     19.7  NZL         19.7  NZL/TKL     19.5  OMA         18.7  PAK         18.6  PHL         20.6
        PLW         20.0  PNG         19.5  QAT         18.8  RUS         19.7  SDN         19.7  SEY         19.1  SLM         18.8
        SMO         19.4  SNG         20.5  SOM         19.1  SSD         19.7  SYR         19.7  THA         20.3  TJK         18.4
        TKM         19.1  TLS         20.2  TON         18.5  TUR         19.7  TUV         18.9  TZA         19.7  UAE         18.7
        UGA         19.7  UKR         19.7  USA/ALS     19.7  USA/GUM     19.2  USA/HWA     19.7  USA/HWL     17.6  USA/JON     19.7
        USA/MDW     17.7  USA/MRA     19.2  USA/SMA     19.7  USA/WAK     18.2  UZB         19.1  VTN         20.4  VUT         18.3
        XZZ/XGZ     19.6  XZZ/XSP     20.6  XZZ/XWB     19.7  YEM         19.2  ZMB         19.7  ZWE         19.6

        PROV: (53) RR 5.389A           SRV: FSS, BSS, RDSS, MSS       PROT AREA: ALL WORLD                                  REF.BW: 1.000 MHZ
        WORST CASE: 113E0000 00N0000/  90.0  INS      GAIN:   44.0 DB   PFD:  -97.1   PFDL: -118.0   PFDX:   20.9   FINDING: N-    9.14
        AFG         18.4  AFS         19.6  AFS/MRN     19.6  ARM         18.9  ARS         19.7  AUS         20.0  AUS/CHR     20.3
        AUS/HMD     18.6  AUS/ICO     20.0  AUS/NFK     18.3  AZE         18.4  BGD         19.5  BHR         18.8  BRM         20.1
        BRU         20.7  BTN         19.2  CBG         20.3  CLN         19.3  COM         18.0  CYP         19.6  DJI         17.6
        EGY         19.7  ERI         19.7  ETH         19.7  F  /AMS     18.5  F  /CRO     17.6  F  /KER     18.7  F  /MYT     18.2
        F  /NCL     18.5  F  /REU     18.8  F  /WAL     17.8  FJI         19.1  FSM         19.7  G  /DGA     18.9  GEO         19.7
        IND         19.9  INS         20.9  IRN         19.1  IRQ         19.7  ISR         19.7  J           19.6  JOR         19.7
        KAZ         19.1  KEN         19.7  KGZ         18.4  KIR         19.5  KIR/PHX     19.7  KOR         19.2  KRE         19.0
        KWT         18.4  LAO         20.2  LBN         19.7  MAU         18.2  MAU/ROD     18.4  MDG         19.1  MHL         18.5
        MLA         20.9  MLD         19.0  MNG         18.8  MOZ         19.7  MWI         19.7  NPL         19.1  NRU         18.3
        NZL/CKH     19.6  NZL/NIU     19.7  NZL         19.7  NZL/TKL     19.5  OMA         18.7  PAK         18.6  PHL         20.6
        PLW         20.0  PNG         19.5  QAT         18.8  RUS         19.7  SDN         19.7  SEY         19.1  SLM         18.8
        SMO         19.4  SNG         20.5  SOM         19.1  SSD         19.7  SYR         19.7  THA         20.3  TJK         18.4
        TKM         19.1  TLS         20.2  TON         18.5  TUR         19.7  TUV         18.9  TZA         19.7  UAE         18.7
        UGA         19.7  UKR         19.7  USA/ALS     19.7  USA/GUM     19.2  USA/HWA     19.7  USA/HWL     17.6  USA/JON     19.7
        USA/MDW     17.7  USA/MRA     19.2  USA/SMA     19.7  USA/WAK     18.2  UZB         19.1  VTN         20.4  VUT         18.3
        XZZ/XGZ     19.6  XZZ/XSP     20.6  XZZ/XWB     19.7  YEM         19.2  ZMB         19.7  ZWE         19.6

        PROV: (105) RR 5.389A          SRV: FSS, BSS, RDSS, MSS       PROT AREA: ALL WORLD                                  REF.BW: 0.004 MHZ
        WORST CASE: 113E0000 00N0000/  90.0  INS      GAIN:   44.0 DB   PFD: -121.0   PFDL: -136.0   PFDX:   15.0   FINDING: N-    9.14
        AFG         12.4  AFS         13.6  AFS/MRN     13.7  ARM         13.0  ARS         13.7  AUS         14.0  AUS/CHR     14.3
        AUS/HMD     12.6  AUS/ICO     14.0  AUS/NFK     12.4  AZE         12.4  BGD         13.5  BHR         12.8  BRM         14.1
        BRU         14.7  BTN         13.3  CBG         14.3  CLN         13.4  COM         12.0  CYP         13.6  DJI         11.7
```

GIBC / FOT Trigger Step2



FOT report for ntc_id:123520049

ANALYSIS OF FREQUENCY OVERLAP WRT TERRESTRIAL SERVICES FINISHED OK

Started at: 29.11.2024 4:02:07 PMFinished at: 29.11.2024 4:02:36 PMExec time: 28s
Production: Production vrs Run by: muluk
Version: 0.0.0.22

ANALYSIS DETAILS

Ntc id: 123520049 Terrakey: 0

DATABASE DETAILS

SRS Database: C:\BR_SOFT\SRS_DB\srs_all.mdb
Terra extract: C:\BR_SOFT\FOT\data\BRIFIC_3022.db3
PFD Results
db:C:\Users\muluk\ITU\BR_SPACE_v9.1\TEX_RESULTS\123520049\PFD_T_241129_153522\pfdgso_results.mdb
NGSO Visibility db:none
Results db: C:\Users\muluk\ITU\BR_SPACE_v9.1\TEX_RESULTS\123520049\FOT_241129160207\FOT_RESULTS.MDB

INCOMING NETWORK DETAILS

Admin:	CHN	Sat name:	CHINASAT-H-113E	Longitude nom:	113
Date of rcv:	10.04.2023	Status:	50	Notif rsn:	C
Action code:	A	Target ntc id:		Plan id:	

SUMMARY FOR PROVISION 9.14 F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: ARS ARS/SDN ARS/YEM AUS BHR CLN DJI EGY EGY/JOR ERI F/NCL F/REU FJI IND INS IRN ISR J JOR KAZ KGZ KOR KWT MNG NZL OMA PAK PHL PNG QAT RUS SYR TUR UAE YEM

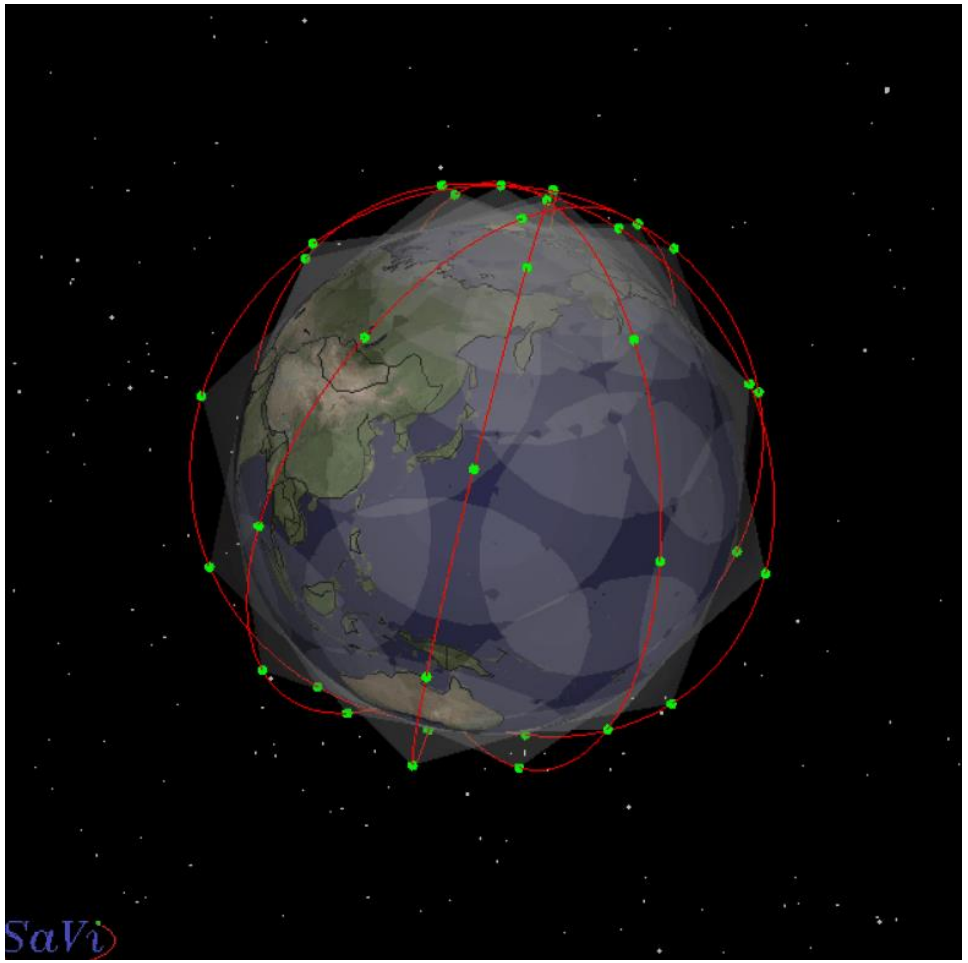
E SDG 123635806 2GHz ARS/SDN ARS/YEM ARS AUS BHR CLN DJI EGY EGY/JOR ERI F/NCL F/REU FJI IND INS IRN ISR J JOR KAZ KGZ KOR KWT MNG NZL OMA PAK PHL PNG QAT RUS SYR TUR UAE YEM

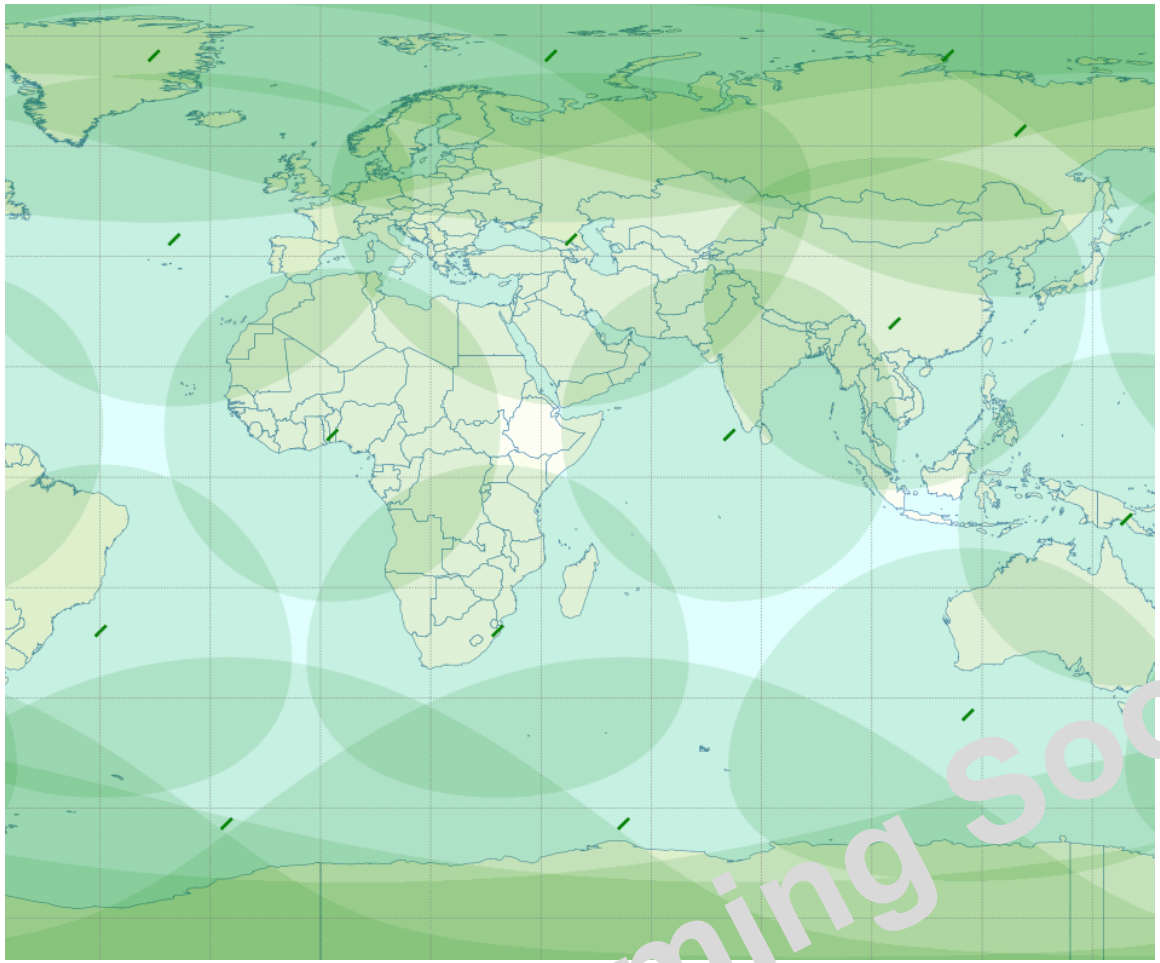
AFFECTED CASES UNDER 9.14 (FREQUENCY OVERLAP METHOD)

E grp_id:123635806 2185.00MHz
ARS

055 AL SHOHADA A	00002157332	46.72	24.63	CI
ABQ COMM	00002157358	40.43	21.25	PO
AIN DAR GOSP 2	00002157331	49.67	25.94	POI
AIN DAR GOSP 5	00002157334	49.24	25.	POI
AL NUAYRIYAH	00002157342	49.25		POINT
AL NUAYRIYAH	00002157337	48.45	7.4	POINT
AL QAIAH	00002157372	48.4		OINT
BERRI NGL COMM	00002157351	4		OINT
DAWMAT AL JANDAL	00002157343	49	26.96	POINT
DH COMM	00002157	9.	29.83	POINT
DH COMM	00002157	50.13	26.31	POINT
FAZRAN GOSP 1	00002157	50.13	26.31	POINT
HALAT AMMAR	00002157	49.18	26.19	POINT
HARAD	00002157	36.08	29.20	POINT
HARAD	00002157337	49.03	24.15	POINT
HARADH COMM	00002157372	49.03	24.15	POINT
HARADH GOSP 1	00002157340	49.11	24.50	POINT
	00002157339	49.11	24.08	POINT

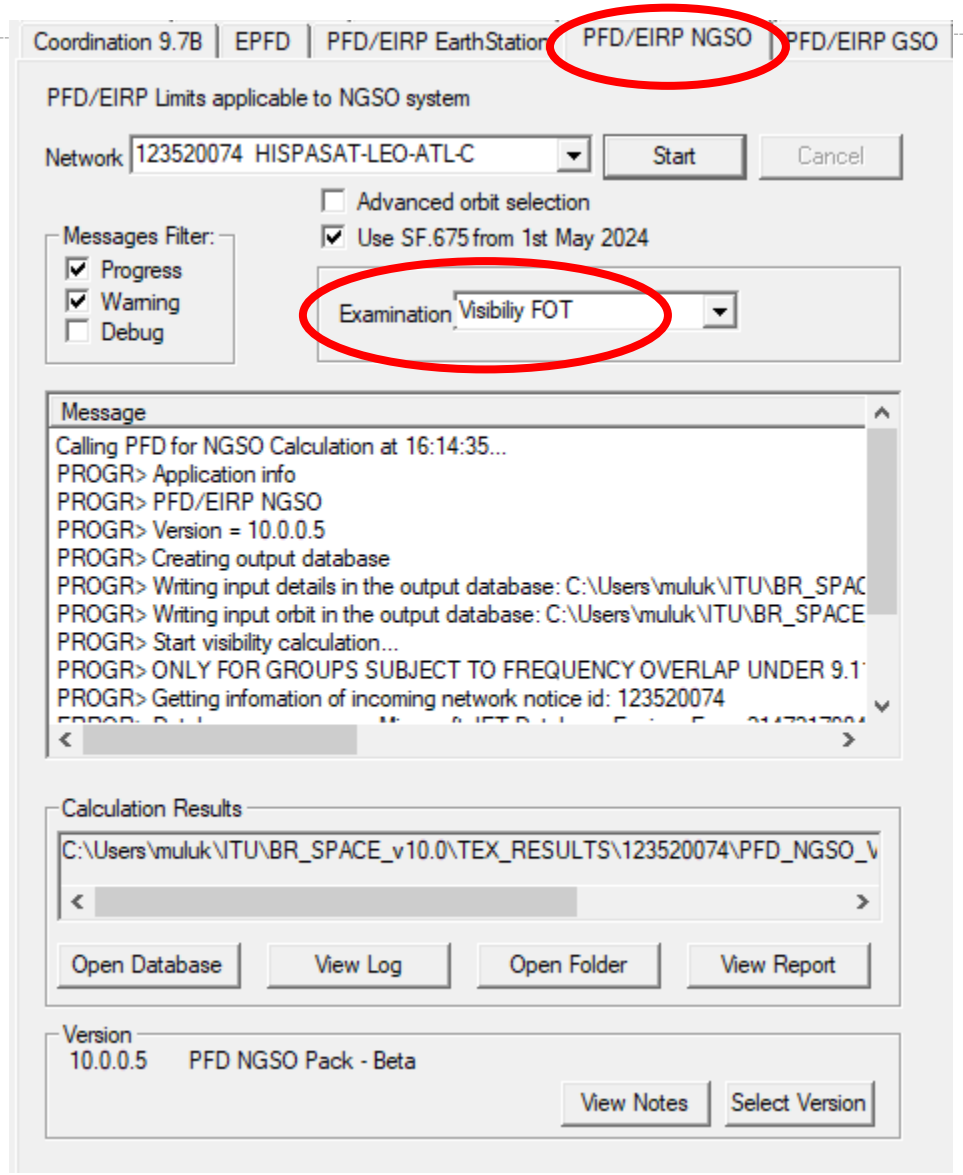
Next Coming Features
"Visibility for NGSO in GIBC"



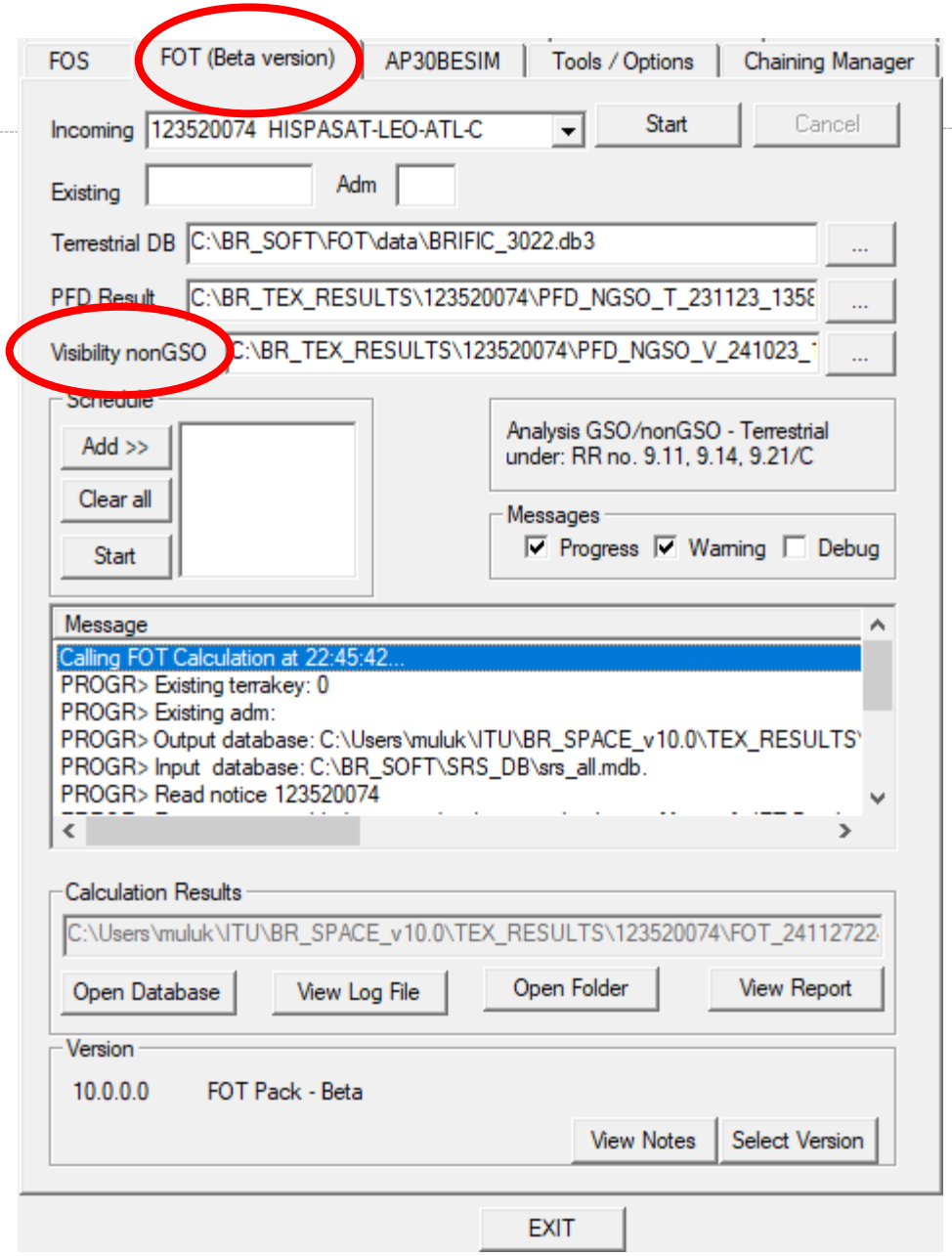


Coming Soon!

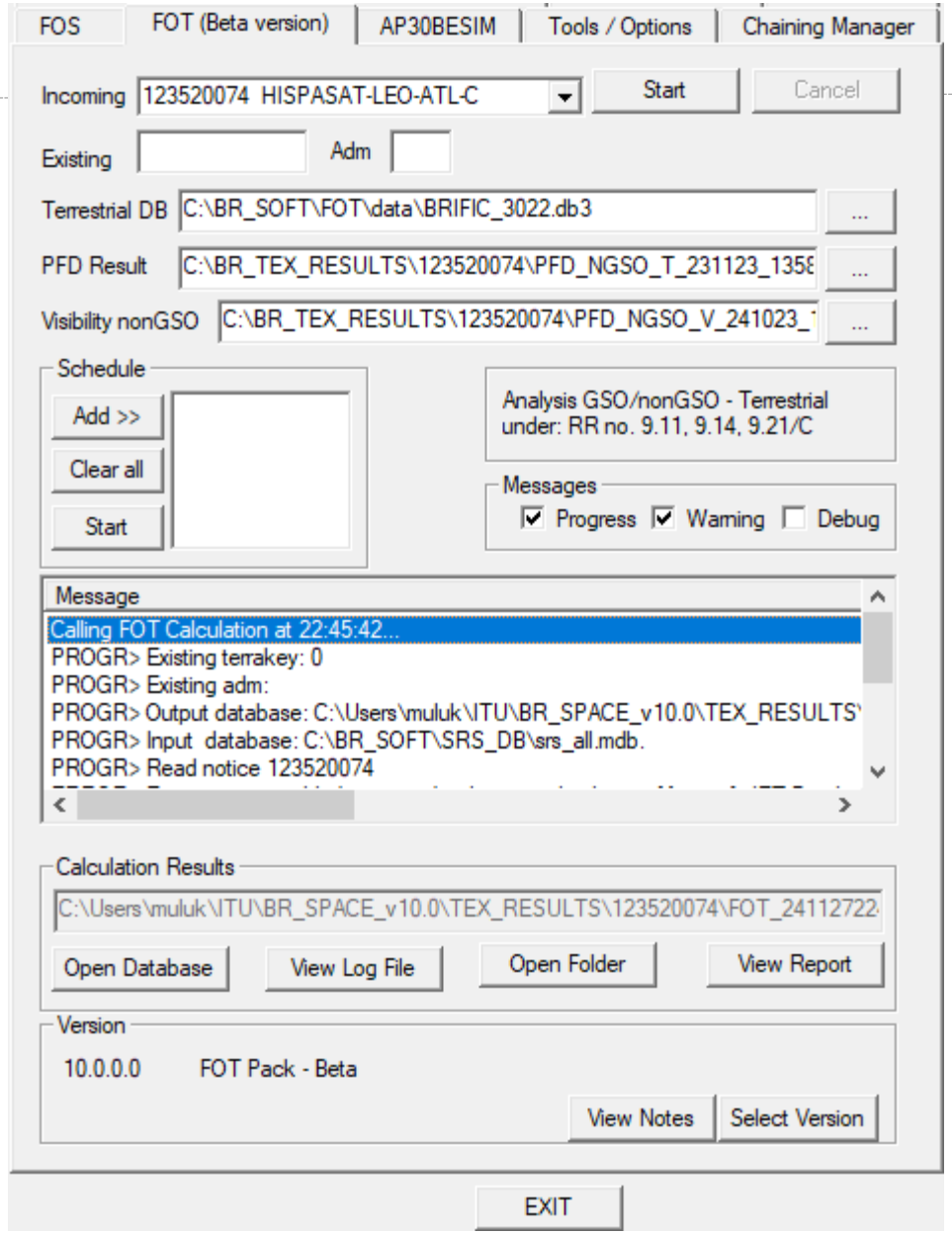
Visibility in GIBC/FOT



Visibility in GIBC/FOT



GIBC FOT with visibility data



FOT report for ntc_id:123520074

ANALYSIS OF FREQUENCY OVERLAP WRT TERRESTRIAL SERVICES FINISHED OK

Started at: 24.10.2024 11:20:09 AMFinished at: 24.10.2024 11:27:02 AMExec time: 6m53s
Production: Production vrs Run by: muluk
Version: 0.0.0.22

ANALYSIS DETAILS

Ntc id: 123520074 Terrakey: 0

DATABASE DETAILS

SRS Database: C:\BR_SOFT\SRS_DB\srs_all.mdb
Terra extract: C:\BR_SOFT\FOT\data\BRIFIC_3022.db3
PFD Results db:C:\BR_TEX_RESULTS\123520074\PFD_NGSO_W_241023_184713 triggers all\PFDNGSO_results.mdb
NGSO Visibility db:C:\BR_TEX_RESULTS\123520074\PFD_NGSO_V_241023_100742\PFDNGSO_results.mdb
Results db: C:\Users\muluk\ITU\BR_SPACE_v9.1\TEX_RESULTS\123520074\FOT_241024112009\FOT_RESULTS.MDB

INCOMING NETWORK DETAILS

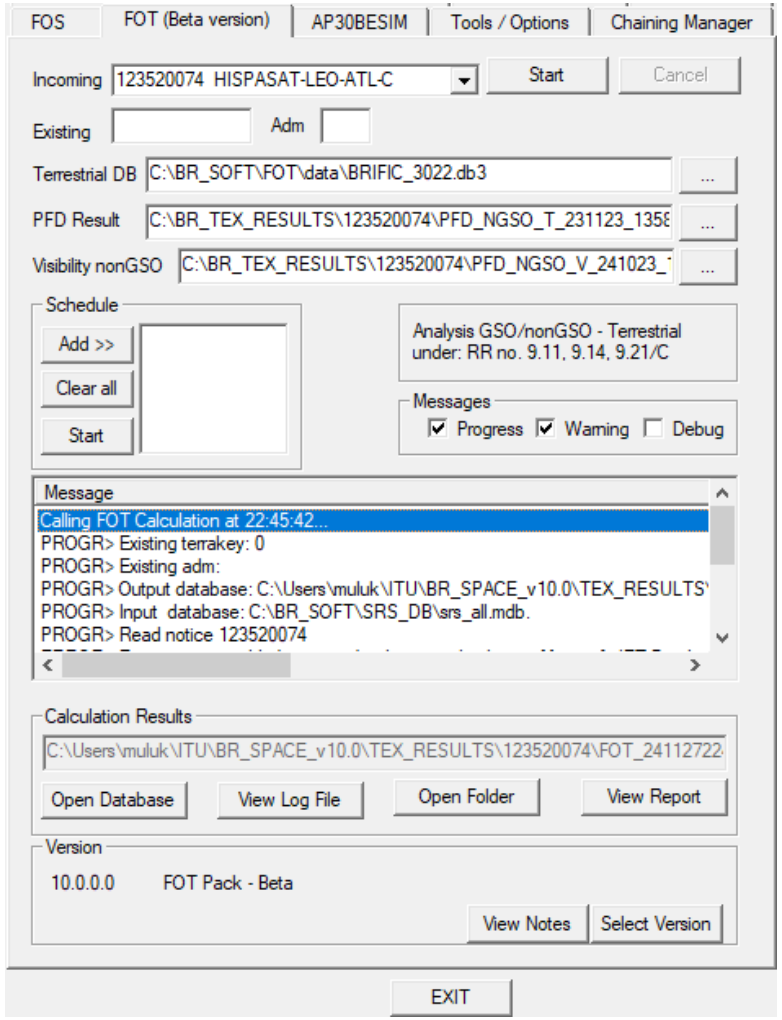
Admin:	E	Sat name:	HISPASAT-LEO-ATL-C	Longitude nom:	
Date of rcv:	05.06.2023	Status:	50	Notif rsn:	C
Action code:	A	Target ntc id:		Plan id:	

SUMMARY FOR PROVISION 9.14 F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: ARG ARM ARS ARS/SDN ARS/YEM AUS AUT BEL BLR BIH
BRB BRB/LCA CAN CHL CHN CHN/HKG CHN/MAC CLM CLN CUB CZE D DJI DNK EGY F/GLP
F/GUF F/NCL F/OCE F/REU FIN FJI G G/GIB G/MRC G/MSR G/VRG GAB GRC I IND INS
IRL IRN ISR J JOR KAZ KGZ KOR KWT LTU LVA MDA MEX MKD MLT NOR NZL OMA
PAK PHL PNG POR PRG QAT ROU RUS S SEN SRB SUI SUI/I TUR UAE UKR URG
USA USA/BEL USA/D USA/MEX USA/PTR USA/VIR UZB YEM

E	DL1	123674962	1GHz
E	DL1	123674964	1GHz RUS
E	DL1	123674965	1GHz
E	DL1	123674967	1GHz RUS
E	DL1	123674968	1GHz

GIBC FOT Report




```
SUMMARY FOR PROVISION 9.21/C F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: AZE  BLR  CHN  CHN/HKG  CUB  D  KOR  RUS  VTN

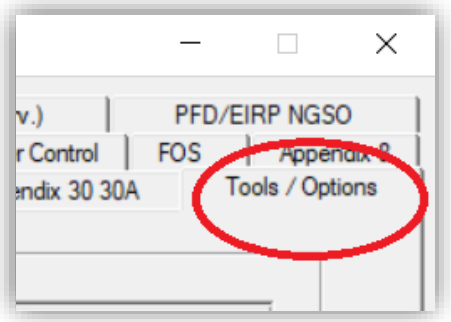
E DL2     123674972  1GHz
E DL2     123674973  1GHz D RUS
E DL2     123674974  1GHz
E DL2     123674975  1GHz D RUS
E DL2     123674976  1GHz
E DL2     123674977  1GHz D RUS
E DL2     123675049  1GHz RUS
E DL2     123675050  1GHz RUS
E VDEDL   123675002 157MHz AZE BLR CHN CUB RUS
E VDEDL   123675003 161MHz AZE BLR CHN CHN/HKG CUB KOR RUS VTN
E VDEDL   123675004 157MHz AZE BLR CHN CUB RUS
E VDEDL   123675005 161MHz AZE BLR CHN CHN/HKG CUB KOR RUS VTN
```

Coming Soon!

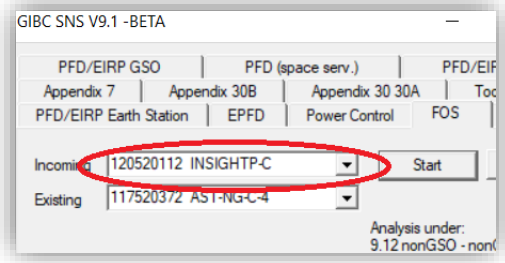
Determination of the coordination identification under Nos. **9.11A(9.12, 9.12A, 9.13) AND 9.21(9.21/A, 9.21/B)**

How to Perform a GIBC/FOS analysis?

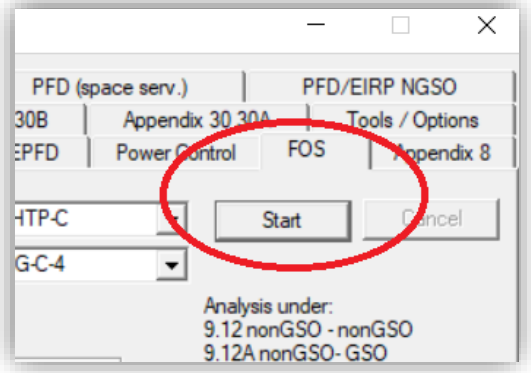
Select databases



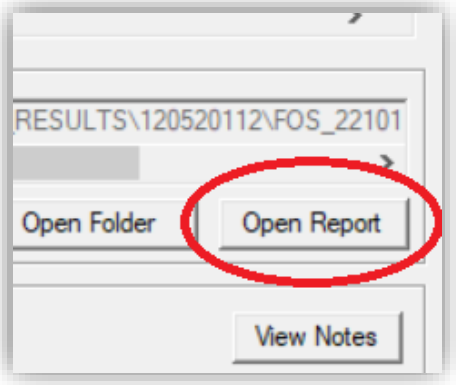
Select network



Press **Start**

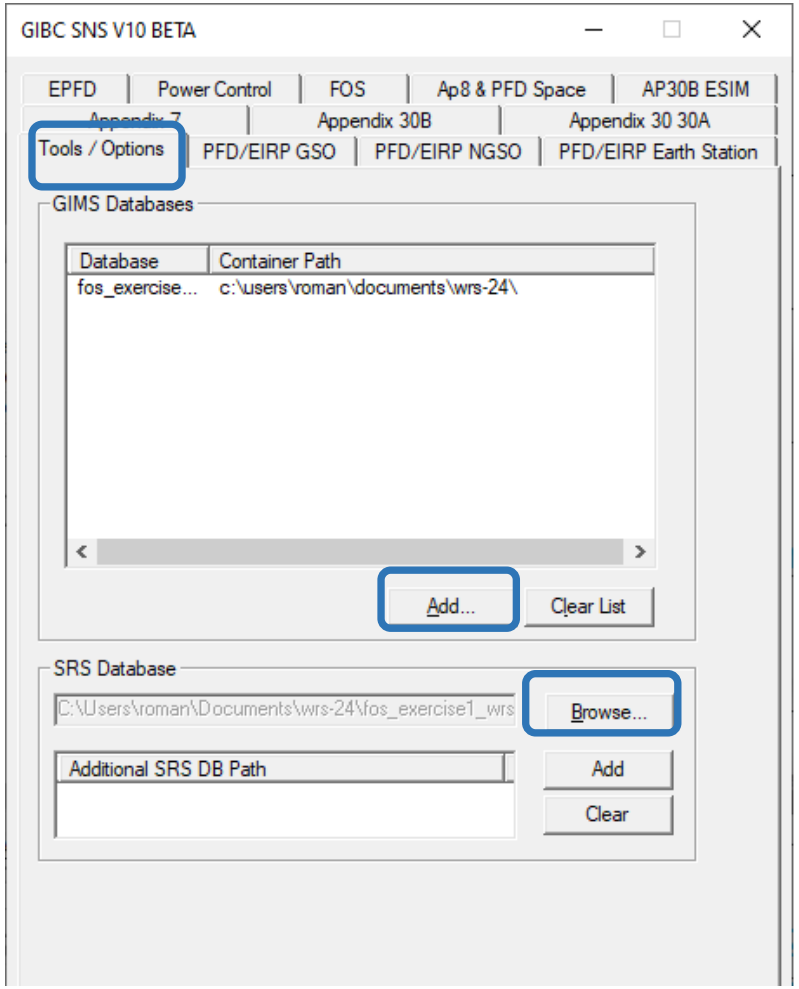


Open **Report**



1 → 2 → 3 → 4

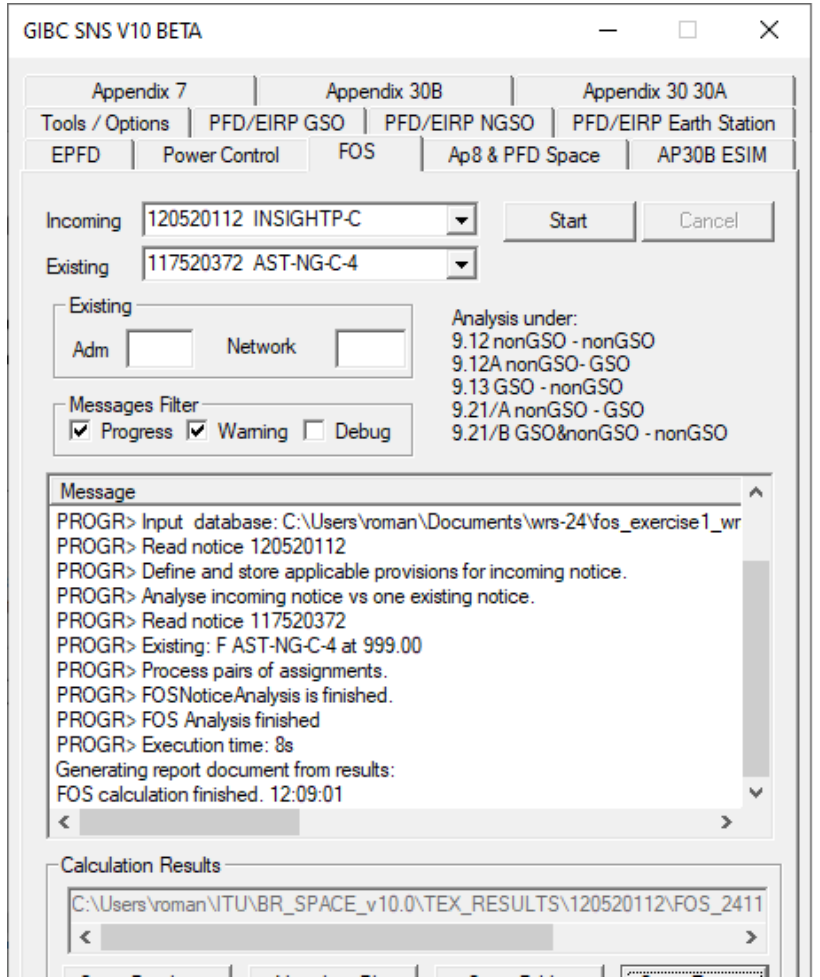
Exercise 1: GIBC/FOS analysis



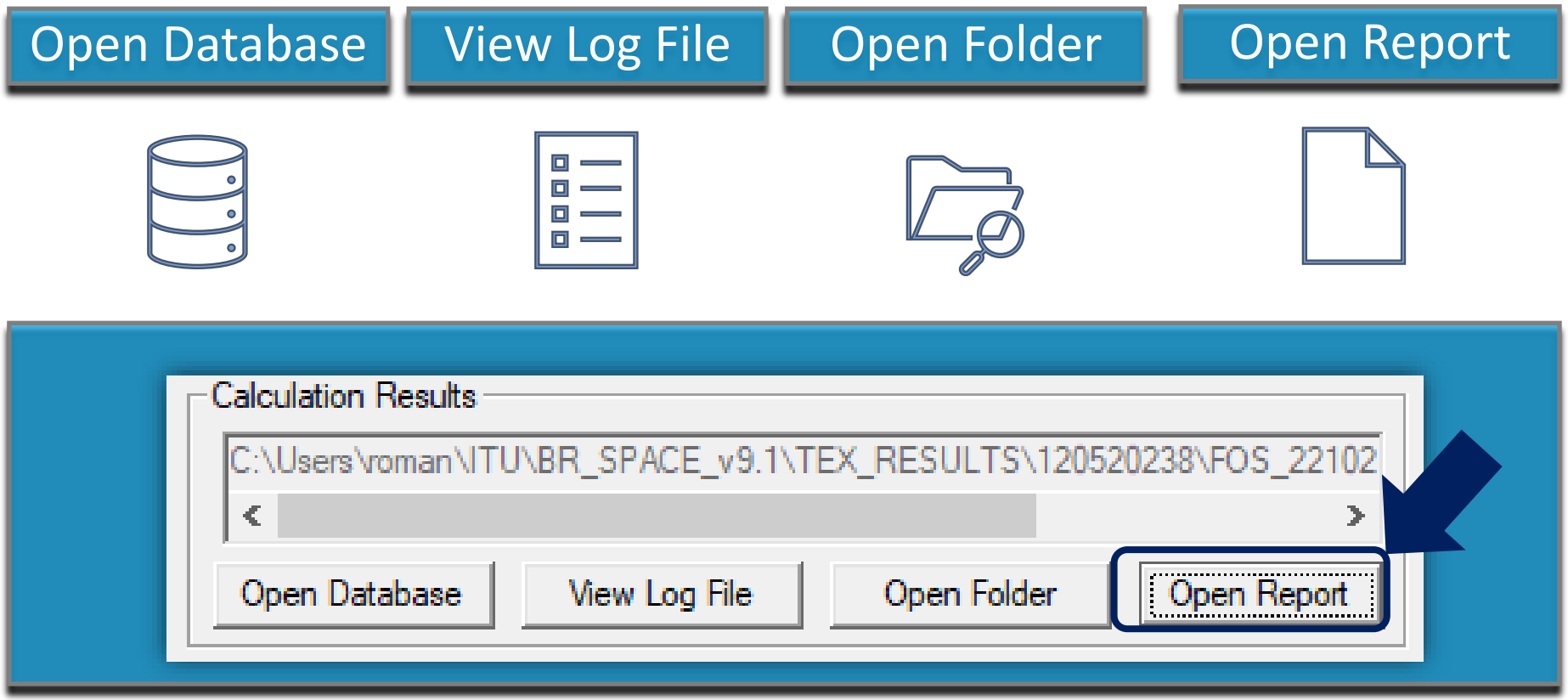
1. Select database files:
   fos_exercise1_wrs24.mdb
   fos_exercise1_wrs24_gims.mdb

2. Select networks:
   incoming: 120520112
   existing: 117520372

3. Click **Start**



GIBC/FOS Analysis – Program results



GIBC/FOS report

- Analysis Details
- Summary
- Affected Networks
- Messages

Open Report

FOS report for ntc_id:120520112

FREQUENCY OVERLAP (SPACE SERVICES) ANALYSIS FINISHED OK

Started at: 26/11/2024 17:25:14 Finished at: 26/11/2024 17:25:24 Exec time: 10s
Production: Test vrs Run by: roman
Version: C:\Program Files (x86)\Itu\BR_Space_v10.0\Gibc\FOS

ANALYSIS DETAILS

Ntc id: 120520112 Exi id: 117520372

DATABASE DETAILS

SRS Database: C:\Users\roman\Documents\wrs-24\fos_exercise1_wrs24.mdb
SRS Additional:none
Results db:
C:\Users\roman\ITU\BR_SPACE_v10.0\TEX_RESULTS\120520112\FOS_241126172513\FOS_RESULTS.MDB

INCOMING NETWORK DETAILS

Admin: CHN Sat name: INSIGHTP-C Longitude nom:
Date of rcv: 28/06/2020 Status: 50 Notif rsn: C
Action code: A Target ntc id: Plan id:

NO OUTPUT MESSAGES

The program did not generate any output message

SUMMARY FOR PROVISION 9.12 F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: F

E LD1	120658772	1GHz	F
E LD2	120658773	1GHz	
E LD3	120658774	1GHz	
E LD4	120658775	1GHz	F

SUMMARY FOR PROVISION 9.12A F

THERE ARE NOT ANY POTENTIALLY AFFECTED ADMINISTRATION FOR THIS PROVISION

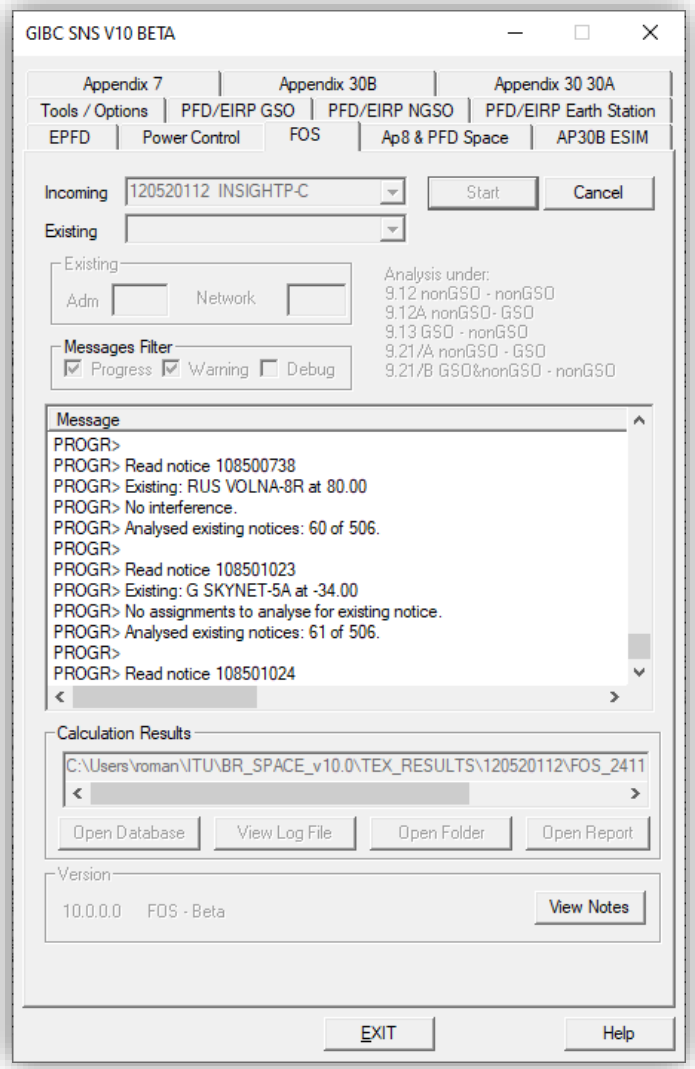
E LD1	120658772	1GHz
E LD2	120658773	1GHz
E LD3	120658774	1GHz
E LD4	120658775	1GHz

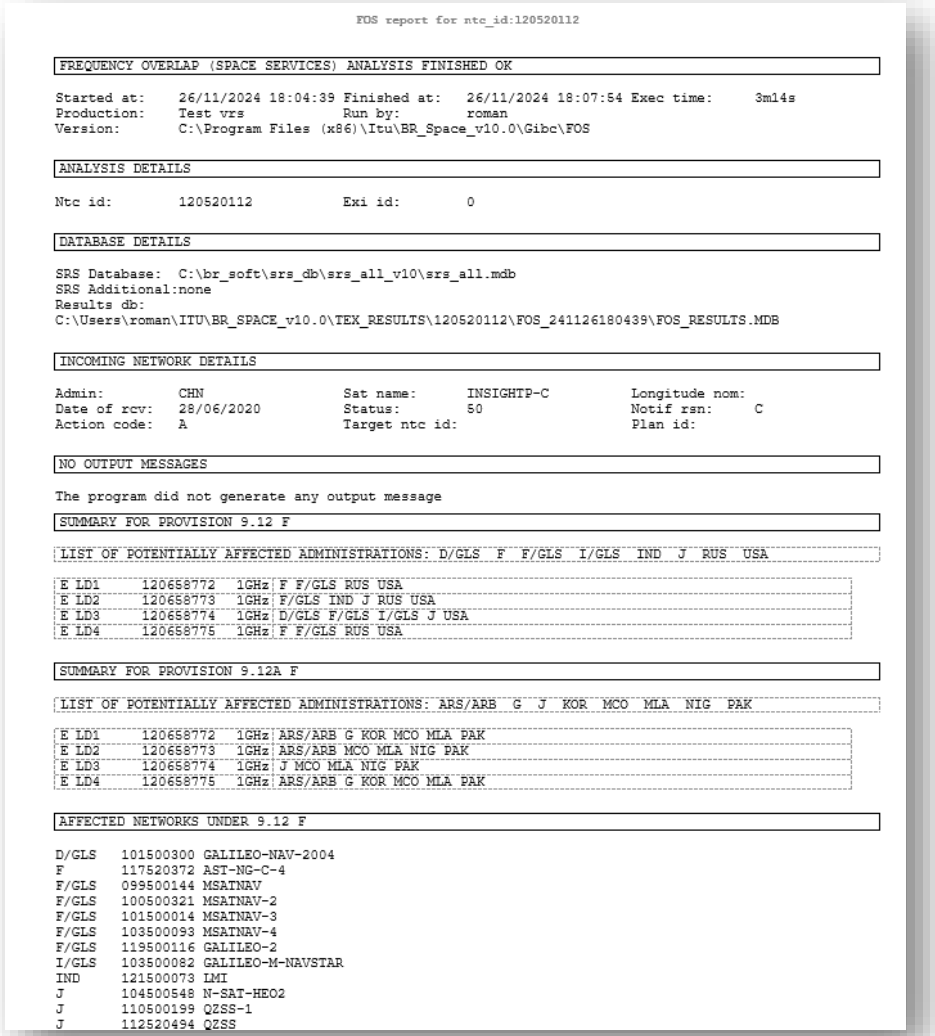
AFFECTED NETWORKS UNDER 9.12 F

F 117520372 AST-NG-C-4

NO OUTPUT MESSAGES

Exercise 2: GIBC/FOS Analysis – non-GSO





FOS report for ntc_id:120520112

FREQUENCY OVERLAP (SPACE SERVICES) ANALYSIS FINISHED OK

Started at: 26/11/2024 18:04:39 Finished at: 26/11/2024 18:07:54 Exec time: 3m14s
Production: Test vrs Run by: roman
Version: C:\Program Files (x86)\Itu\BR_Space_v10.0\Gibc\FOS

ANALYSIS DETAILS

Ntc id: 120520112 Exi id: 0

DATABASE DETAILS

SRS Database: C:\br_soft\srs_db\srs_all_v10\srs_all.mdb
SRS Additional:none
Results db:
C:\Users\roman\ITU\BR_SPACE_v10.0\TEX_RESULTS\120520112\FOS_241126180439\FOS_RESULTS.MDB

INCOMING NETWORK DETAILS

Admin: CHN Sat name: INSIGHTP-C Longitude nom:
Date of rcv: 28/06/2020 Status: 50 Notif rsn: C
Action code: A Target ntc id: Plan id:

NO OUTPUT MESSAGES

The program did not generate any output message

SUMMARY FOR PROVISION 9.12 F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: D/GLS F F/GLS I/GLS IND J RUS USA

E LD1 120658772 1GHz F F/GLS RUS USA
E LD2 120658773 1GHz F/GLS IND J RUS USA
E LD3 120658774 1GHz D/GLS F/GLS I/GLS J USA
E LD4 120658775 1GHz F F/GLS RUS USA

SUMMARY FOR PROVISION 9.12A F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: ARS/ARB G J KOR MCO MLA NIG PAK

E LD1 120658772 1GHz ARS/ARB G KOR MCO MLA PAK
E LD2 120658773 1GHz ARS/ARB MCO MLA NIG PAK
E LD3 120658774 1GHz J MCO MLA NIG PAK
E LD4 120658775 1GHz ARS/ARB G KOR MCO MLA PAK

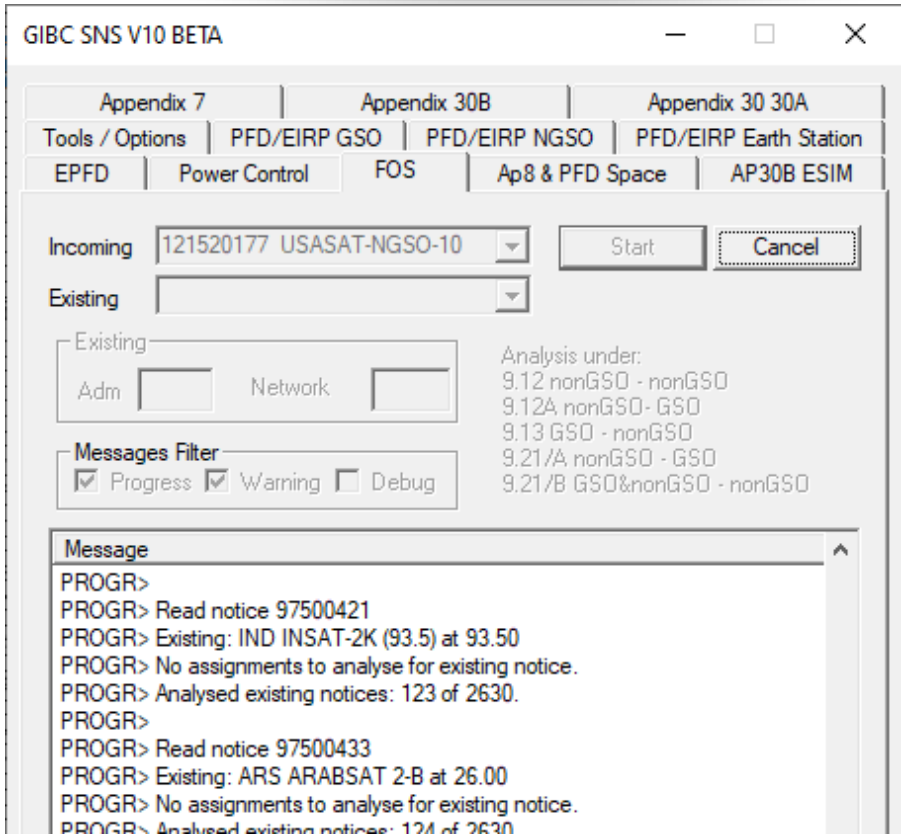
AFFECTED NETWORKS UNDER 9.12 F

D/GLS 101500300 GALILEO-NAV-2004
F 117520372 AST-NG-C-4
F/GLS 099500144 MSATNAV
F/GLS 100500321 MSATNAV-2
F/GLS 101500014 MSATNAV-3
F/GLS 103500093 MSATNAV-4
F/GLS 119500116 GALILEO-2
I/GLS 103500082 GALILEO-M-NAVSTAR
IND 121500073 LMI
J 104500548 N-SAT-HEO2
J 110500199 QZSS-1
J 112520494 QZSS

- Select incoming: 120520112
- Click **Start**

Exercise 3: GIBC/FOS Analysis – non-GSO

Select incoming: 121520177
Click **Start**



FOS report for ntc_id:121520177

FREQUENCY OVERLAP (SPACE SERVICES) ANALYSIS FINISHED OK

Started at: 26/11/2024 18:30:55 Finished at: 26/11/2024 19:03:26 Exec time: 32m30s
Production: Test vrs Run by: roman
Version: C:\Program Files (x86)\Itu\BR_Space_v10.0\Gibc\FOS

ANALYSIS DETAILS

Ntc id: 121520177 Exi id: 0

DATABASE DETAILS

SRS Database: C:\br_soft\srs_db\srs_all_v10\srs_all.mdb
SRS Additional:none
Results db:
C:\Users\roman\ITU\BR_SPACE_v10.0\TEX_RESULTS\121520177\FOS_241126183055\FOS_RESULTS.MDB

INCOMING NETWORK DETAILS

Admin: USA Sat name: USASAT-NGSO-10 Longitude nom:
Date of rcv: 20/10/2021 Status: 50 Notif rsn: C
Action code: M Target ntc id: Plan id:

NO OUTPUT MESSAGES

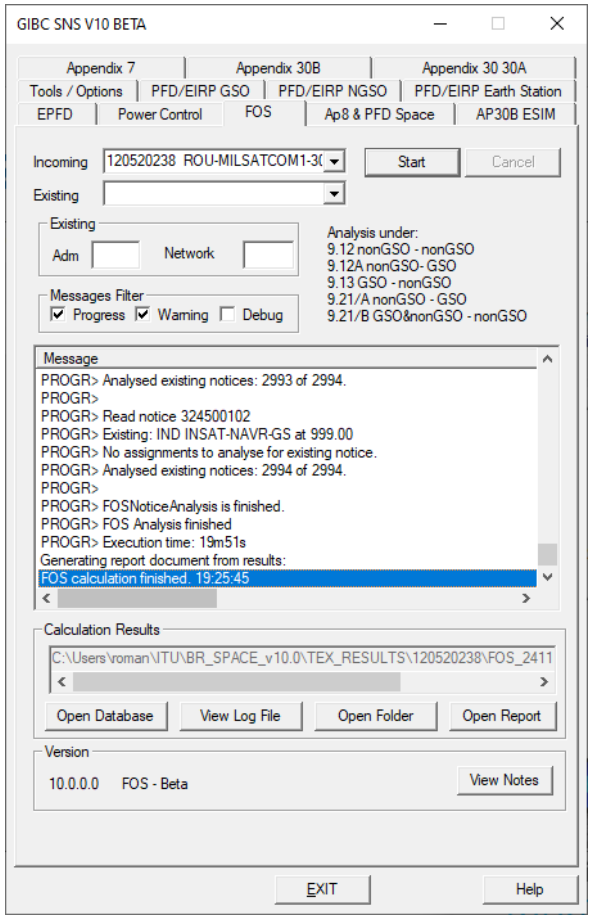
The program did not generate any output message

SUMMARY FOR PROVISION 9.12 F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: CAN CHN CYP D E F G HOL ISR KOR LIE LUX NOR PNG RUS VTN

E	KADOWN1	121723594	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723671	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723672	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723673	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723674	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723675	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723676	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723677	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723678	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723679	17GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	RUS
E	KADOWN1	121723733	18GHz	CAN	CHN	CYP	D	E	F	G	HOL	KOR	LIE	LUX	NOR	RUS	
E	KADOWN1	121723734	18GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	PNG	RUS	VTN
E	KADOWN1	121723735	19GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	VTN		
E	KADOWN1	121723777	18GHz	CAN	CHN	CYP	D	E	F	G	HOL	KOR	LIE	LUX	NOR	RUS			
E	KADOWN1	121723778	18GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	PNG	RUS	VTN
E	KADOWN1	121723779	19GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	VTN		
E	KADOWN1	121723780	18GHz	CAN	CHN	CYP	D	E	F	G	HOL	KOR	LIE	LUX	NOR	RUS			
E	KADOWN1	121723781	18GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	PNG	RUS	VTN
E	KADOWN1	121723782	19GHz	CAN	CHN	CYP	D	E	F	G	HOL	ISR	KOR	LIE	LUX	NOR	VTN		

Exercise 4: GIBC/FOS Analysis -GSO



Select incoming:
120520238
Click **Start**

FOS report for ntc_id:120520238

FREQUENCY OVERLAP (SPACE SERVICES) ANALYSIS FINISHED OK

Started at: 26/11/2024 19:05:54 Finished at: 26/11/2024 19:25:45 Exec time: 19m51s
Production: Test vrs Run by: roman
Version: C:\Program Files (x86)\Itu\BR_Space_v10.0\Gibc\FOS

ANALYSIS DETAILS

Ntc id: 120520238 Exi id: 0

DATABASE DETAILS

SRS Database: C:\br_soft\srs_db\srs_all_v10\srs_all.mdb
SRS Additional:none
Results db:
C:\Users\roman\ITU\BR_SPACE_v10.0\TEX_RESULTS\120520238\FOS_241126190553\FOS_RESULTS.MDB

INCOMING NETWORK DETAILS

Admin: ROU Sat name: ROU-MILSATCOM1-30.45ELongitude nom: 30.45
Date of rcv: 11/12/2020 Status: 50 Notif rsn: C
Action code: A Target ntc id: Plan id:

NO OUTPUT MESSAGES

The program did not generate any output message

SUMMARY FOR PROVISION 9.13 F

LIST OF POTENTIALLY AFFECTED ADMINISTRATIONS: CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS SLM UAE USA VTN

E	1M17D	120748871	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	1M17D	120748872	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	1M17D	120748873	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	1M17D	120748874	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	1M17D	120748875	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	1M17D	120748876	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	1M17D	120748877	18GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA
E	1M17D	120748878	18GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA
E	1M17D	120748879	18GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA
E	1M17D	120748880	18GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA
E	1M17D	120748881	18GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA
E	1M17D	120748882	18GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA
E	2M17D	120748908	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	2M17D	120748909	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	2M17D	120748910	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	2M17D	120748911	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN
E	2M17D	120748912	19GHz	CAN CHN CYP D E F G HOL ISR LIE LUX NOR RUS USA VTN

GIBC/FOS Exercise Sum Up

Open **GIBC**

Tools&Options page:

Add databases in SNS V10 and GIMS format

FOS page:

- Select Network
- Press **Start**

When the program finishes:

Press **Report File**

Thank you!

ITU – Radiocommunication Bureau

Questions to brmail@itu.int or brsas@itu.int
veronica.roman@itu.int or mehtap.dufour@itu.int