Workshop
ITU HFBC Software

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Introduction to the ITU HFBC software package

- General principles:
  - Consistent with Article 12 and Resolution 535 (WRC-97).
  - Developed in consultation with administrations, broadcasters, and coordination groups.
  - Takes into account the availability of suitable computer hardware by administrations to run the software.

Key features of the software modules

- HFBC REQ – Data capture
- ITU HFBC – Calculation software
- HFBC VAL – Data validation
- HFBC ANT – Antenna calculation

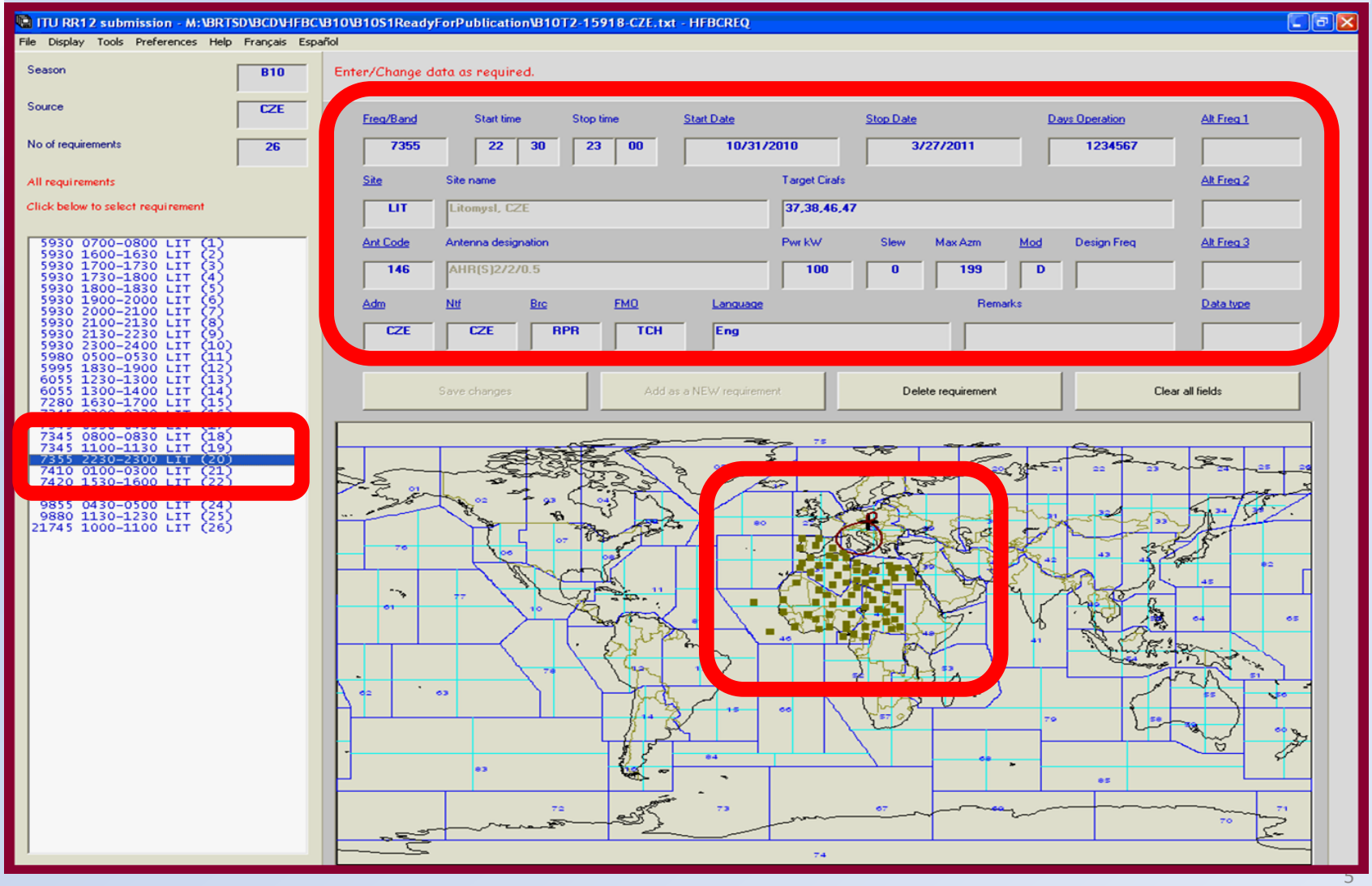
HFBC REQ – Data capture

- Capture new HFBC requirements
- Modify existing requirements files
- Change “Start/Stop date” of a season
- Create a notification file

The software is linked to the HFBC

Reference tables

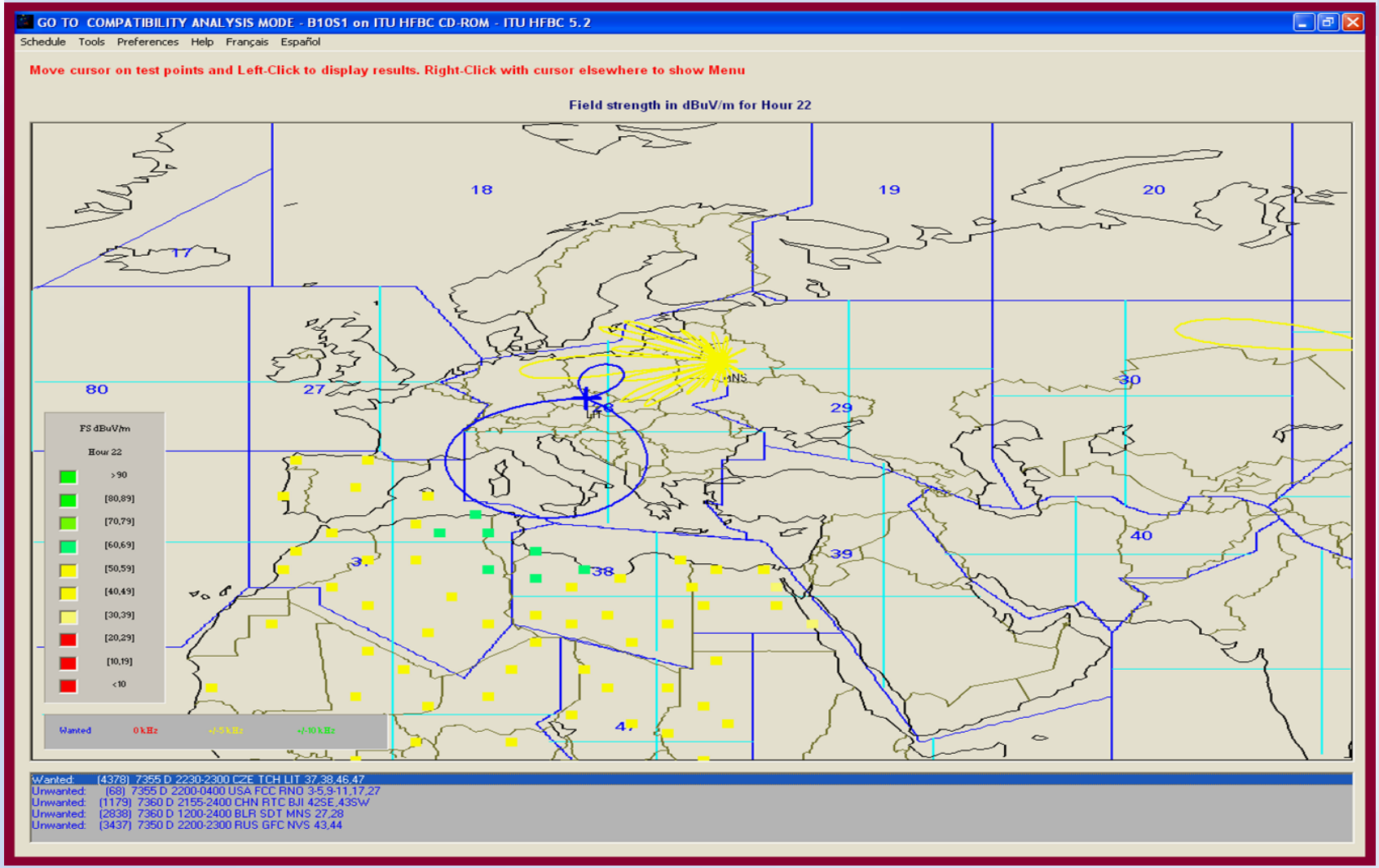
HFBC REQ – Data capture



ITU HFBC – Calculation soft

- Displays the seasonal schedule: list view, maps view.
- Propagation prediction: calculates propagation data; results in tabular form or on maps.
- Compatibly analysis: calculates interference from other requirements; identifies interference sources; results are shown on maps.

ITU HFBC – Calculation soft



HFBC VAL – Data validation

- Assists administrations to validate their requirement files before submission.
  - For RR12 HFBC bands.
  - For Regional Coordination Groups bands
  - Detects and displays errors

- Remove requirements with frequencies out of RR12 bands.

HFBC VAL – Data validation

HFBC VAL 2.0 - M:\BRTSD\BCD\HFBC\B10\B10S1ReadyForPublication\B10T2-15918-CZE.txt

File Edit Validate Tools Help Français Español

4 error(s); Total number of requirements = 26

```
; B10 CZE 30-AUG-2010 TCH
;
;
;----+----+----+------------------------------+---+----+-------+---+---+-------+------+------+-+-----+----------+---+---+---+-----+-+-----+-----+-----+-------
;FREQ STRT STOP CIRAF ZONES                     LOC POWR AZIMUTH SLW ANT DAYS    FDATE  TDATE MOD AFRQ LANGUAGE   ADM BRC FMO REQ# OLD ALT1 ALT2  ALT3  NOTES
;----+----+----+------------------------------+---+----+-------+---+---+-------+------+------+-+-----+----------+---+---+---+-----+-+-----+-----+-----+-------
 5930 0700 0800 27,28,37                       LIT  100 260       0 101 1234567 311010 270311 D       FraDeu     CZE RPR TCH  8086
 3333 1600 1[illegible] 27,2                   LIT  100 260       0 101 1234567 311010 270311 D       Deu        CZE RPR TCH  8087
 5930 1700 1[illegible] 99                     LIT  100 290       0 206 1234567 311010 270311 D       Eng        CZE RPR TCH  8089
 5930 1730 1[illegible] 27,2                   LIT  100 260       0 206 1234567 311010 270311 D       Fra        CZE RPR TCH  8090
 5930 1800 1[illegible]                        ZZZ  100 290       0 206 1234567 311010 270311 D       Eng        CZE RPR TCH  8091
 5930 1900 2000 27,28,36,37                    LIT  100 245       0 894 1234567 311010 270311 D       SpaFra     CZE RPR TCH  8094
 5930 2000 2100 27,28,36,37                    LIT  1[illegible]  0 894 1234567 311010 270311 D       SpaCes     CZE RPR TCH  8093
 5930 2100 2130 27,28                          LIT  1[illegible]  0 206 1234567 311010 270311 D       Eng        CZE RPR TCH  6346
 5930 2130 2230 13,14,37                       LIT  1[illegible]  0 894 1234567 311010 270311 D       SpaCes     CZE RPR TCH 14123
 5930 2300 2400 3-10                           LIT  1[illegible]  0 146 1234567 311010 270311 D       FraEng     CZE RPR TCH  8084
 5980 0500 0530 28-30                          LIT  1[illegible]  0 206 1234567 311010 270311 D       Rus        CZE RPR TCH  8096
 5995 1830 1900 28-31                          LIT  100 60        0 206 1234567 311010 270311 D       Rus        CZE RPR TCH 12238
 6055 1230 1300 28-31                          LIT  100 60        0 206 1234567 311010 270311 D       Rus        CZE RPR TCH  8097
 6055 1300 1400 18,27,28                       LIT  100 0         0 927 1234567 311010 270311 D       DeuCes     CZE RPR TCH  6351
 7280 1630 1700 38-40                          LIT  100 125       0 891 1234567 311010 270311 D       Ces        CZE RPR TCH 14122
 7345 0300 0330 12-16                          LIT  100 245       0 894 1234567 311010 270311 D       Spa        CZE RPR TCH 15132
 7345 0330 0430 7-10                           LIT  200 310       0 146 1234567 311010 270311 D       CesEng     CZE RPR TCH 15131
 7345 0800 0830 27                             LIT  100 290       0 206 1234567 311010 270311 D       Eng        CZE RPR TCH  6360
 7345 1100 1130 27-29                          LIT  200 0         0 926 1234567 311010 270311 D       Deu        CZE RPR TCH  6358
 7355 2230 2300 37,38,46,47                    LIT  100 199       0 146 1234567 311010 270311 D       Eng        CZE RPR TCH  6392
 7410 0100 0300 7-10                           LIT  100 310       0 146 1234567 311010 270311 D       EngSpaCes  CZE RPR TCH 14074
 7420 1530 1600 29-32                          LIT  100 60        0 206 1234567 311010 270311 D       Rus        CZE RPR TCH 14143
 9790 0000 0100 12-16                          LIT  100 245       0 878 1234567 311010 270311 D       SpaCes     CZE RPR TCH  8085
 9855 0430 0500 38,39,48                       LIT  100 144       0 892 1234567 311010 270311 D       Eng        CZE RPR TCH  6369
 9880 1130 1230 18,28                          LIT  100 356       0 878 1234567 311010 270311 D       EngCes     CZE RPR TCH  8101
21745 1000 1100 37,46                          LIT  100 210       0 878 1234567 311010 270311 D       EngCes     CZE RPR TCH  6387
```

HFBC ANT – Antenna calculation

- Theoretical approach based on Recommendation ITU-R BS.705
- Calculates the radiation patterns and gain of the most common used HF antennas.
- Provide quick reference for administrations and broadcasters in identifying antennas.

HFBC ANT – Antenna calculation

English
Español
Français

HFBC Antennas

Please enter Antenna Code or select from list below
If required, make changes to parameters and click Refresh

Antenna Type

AHR (100-299)
CHR (300-499)
EHR (500-699)
CH (700-750)
CT (750-799)
LPH (800-849)
LPV (850-874)
RH (875-924)
HQ (925-949)
HX (950-974)
VM (975-990)

Old Codes (1-75)

Tools

Refresh
Print

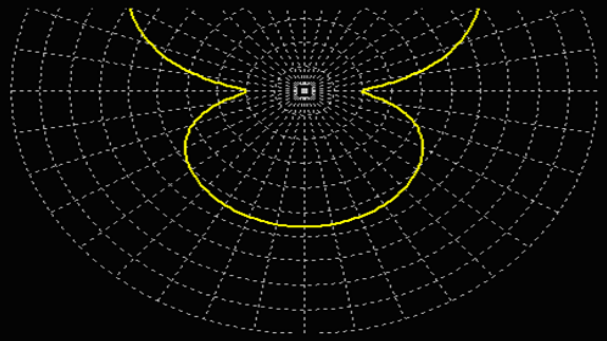
Exit

Antenna Code	800	**Antenna Type**	Horizontal log-periodic
Antenna designation	LPH18/35/30/30/3/26/89		

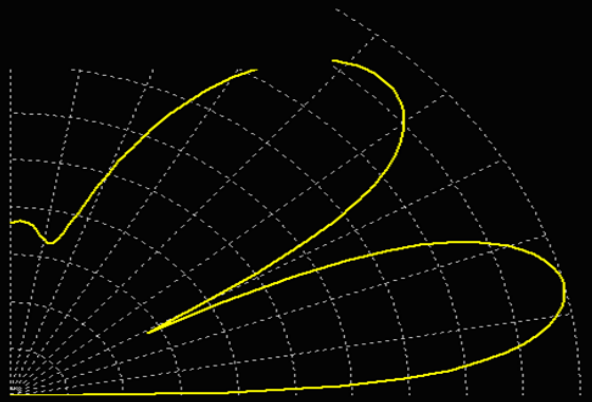
Ground dielectric constant (3 - 80)	4	Shortest to longest element distance (m)	35
Ground conductivity (.00003 - 5.0 S/m)	0.01	Height of the shortest element (m)	30
Operating frequency (2 - 30 MHz)	10	Height of the longest element (m)	30
Number of elements (20 max)	18	Feeder impedance (999 ohm max)	89
Half-length of the shortest element (m)	3		
Half-length of the longest element (m)	26		

Azimuth at Gain max (degrees)	0	Directivity Gain (dBi)	11.8
Elevation at Gain max (degrees)	14	Floor/Step value (dB)	-30/3

Horizontal pattern at 14° elevation



Vertical pattern at 0° azimuth



Thank you for your attention!