



Monitoring Report Mai 2020

| kHz | UTC | DD | MM | ITU | IDENT | MODE | BD / sps | SH / BW | DETAILS |
|--|----------------------|----------------|----|-----|-------------------|--------------------------|-----------|----------|--|
| 80m band informational only! - Amateur co-primary, shared with other also primary allocated services! | | | | | | | | | |
| 3527.0 | 2138 | 06 | 05 | | | F1B | 50 | 200 | almost daily |
| 3581.8 | 2141 | 06 | 05 | | | G1D | 2400 | 3K00E | STANAG 4285 often |
| 3744.5 | 2205 | 08 | 05 | | | G1D | 2400 | 2k70E | MIL 188-110A (D2) mod (Hybrid) preamble 4 tones, PSK4 75Bd 450Hz spacing |
| 7000.0 | 2151 | 07 | 05 | | | N0N | | | Long lasting carrier |
| 7000.0 | 0952 | 27 | 05 | | | FMOP | 40 sps | 12k0E | OTHR: Contayner 29B6 often |
| 7016.0 | 0956 | 27 | 05 | | | FMOP | 40 sps | 12k0E | OTHR: Contayner 29B6 |
| 7026.0 | 1801 | 23 | 05 | | | FMOP | 40 sps | 12k0E | OTHR: Contayner 29B6 |
| 7032.0 | 2151 | 17 | 05 | | | FMOP | 40 sps | 12k0E | OTHR: Contayner 29B6 |
| 7039.826 | 2059 | 24 | 05 | F | FDE2 | A1A | | | endless loop "VVV de FDE2" |
| 7051.0 | 2219 | 01 | 05 | | | F1B | 50 | 200 | almost daily |
| 7053.0 | 2200 | 17 | 05 | | | XXX | | ca 2k40E | unid digital signal, used as Jammer |
| 7055.0 | 1037 2218 0707 | 12 13 14 | 05 | | | B7D ?? USB/LSB | | 10-12k | unid digital signal. Frame format 4800 bps uncoded |
| 7114.0 | 2210 | 01 | 05 | | | F1B | 50 | 250 | |
| 7122.0 | 2229 | 01 | 05 | | RDL | F1B | 50 | 200 | CIS 50-50 almost daily |
| 7122.1 | 1531 | 04 | 05 | | | A1 | | | Jammer: Dashes and dots; stupid and illegal! |
| 7137.0 | 1623 | 05 | 05 | | | F1B | 50 | 250 | |
| 7140.0 | 1541 | 04 | 05 | ERI | VOBM | A3E | | ~ 9k | BC: Voice of the broad Masses 1 daily |
| 7158.0 | 2224 | 13 | 05 | | | F1B | 100 | 250 | |
| 7159.0 | 1152 | 09 | 05 | | | B7D | 14x75 | 6K00E | DQPSK: LINK 11 CLEW DSB mode; aka TADIL A long lasting |
| 7179.0 | 0628 | 22 | 05 | | | F1B | 75 | 200 | |
| 7180.0 | 1541 | 04 | 05 | ERI | VOBM2 | A3E | | ~ 9k | BC: Voice of the broad Masses 2 often |
| 7197.0 | 1520 1914 | 04 27 | 05 | TUR | 306013 various | MFSK8 | 125 | 1750 | ALE, MIL 188-141A; TUR Emergency Network daily |
| 7198.0 | 1635 | 19 | 05 | | | J7D | 12x120 | 2k7 | PSK-2; CIS12 aka AT3004D |
| 7205.0 | 2231 | 13 | 05 | | | A3E | | ca 20k0E | splattering down to 7195 kHz! |
| 13950.0; CF | 0734 | 19 | 05 | | | FMOP | 10 sps | 160k | OTHR: 13870 - 14030 kHz |
| 14008.0 | 0950 | 14 | 05 | | | F1B | 50 | 250 | often |
| 14026.0 | 1219 | 20 | 05 | | | J7D | 12x120 | 2k7 | PSK-2; CIS12 aka AT3004D |
| 14116.0 | 0949 | 25 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14142.0 | 1436 | 06 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14150.0 | 0835 | 25 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14152.0 | 1033 | 06 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14164.0 | 1631 | 06 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14181.0 | 0958 | 13 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14192.5 | 0647 | 22 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14196.0 | 1228 | 11 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14196.0 | 1228 | 11 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14221.0 | 2014 | 24 | 05 | | | F1B | 50 | 200 | often |
| 14236.0 | 1124 | 25 | 05 | | | J7D | 12x120 | 2k7 | PSK-2; CIS12 aka AT3004D |
| 14253.0 | 0824 | 04 | 05 | | | F1B | 75 | 250 | CIS 75-250 often |
| 14265.0 | 1323 | 23 | 05 | | | FMOP | 66.66 sps | 10k | OTHR; Bursts, BD ca 3.8s (Foghorn) |



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|---------|--------------|----------|----|-----|---------------|------|------------------|----------|---|
| 14294.0 | 2213 | 24 | 05 | | | FMOP | 66.66 sps | 10k | OTHR; Bursts (Foghorn) |
| 14303.0 | 1110 | 04 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 14340.0 | 1224 | 27 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 18080.0 | 0739 0654 | 19 24 | 05 | TWN | Sound of Hope | A3E | | ca 12k | BC; Chinese language often |
| 18109.0 | 1535 | 1 | 05 | | | J7D | 12x120 | 2k7 | PSK-2; CIS12 aka AT3004D often |
| 21383.0 | 0839 | 25 | 05 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner 29B6 |
| 21438.0 | 0853 | 25 | 05 | | RCV | A1A | | | TDoA: Area of Sevastopol daily |
| 28860.0 | 0936 1547 | 23 | 05 | IRN | | XXX | 150 + 313 sps | appx 40k | OTHR, Bursts; long lasting, sweep rate alternating almost daily |

Errors and omissions excepted

Digital transmissions: Frequency mostly center frequency (CF); otherwise indicated (LSB or USB).

Abbreviations:

aka = also known as | **BC** = Broadcast | **BD** = Baud, or also Burst duration | **BRI** = Burst repetition interval | **BW** = Bandwidth | **ca** = approximate | **CF** = Center frequency | **DF** = Direction finding (radio location) see also TDoA | **FMCW** = frequency modulated continuous wave | **FMOP** = frequency modulated on pulse | **OTHR** = over the horizon radar | **PRC** = **CHN** People's Republic of China | **RF** = Radio frequency = VFO | **SH** = Shift (Hz) | **sps** = sweeps per second | **TDoA** Time difference of arrival | **ui** = unid = unidentified | **vd** = various dates | **vt** = various times.

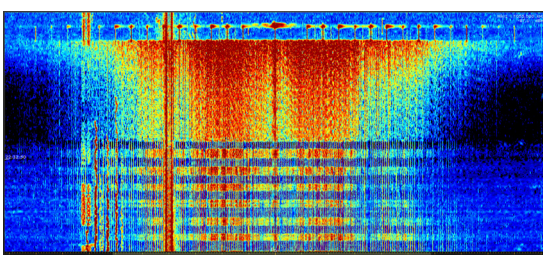
Peter A. Jost / HB9CET
Coordinator a.I. IARU Monitoring System R1
Head of USKA Bandwacht
Friedheimstrasse 34b
CH 8057 Zürich
E-Mail: guard (at) uska.ch

USKA Monitoring System
<https://www.uska.ch>
Member of IARU Monitoring System R1
<https://www.iaru-r1.org/spectrum/monitoring-system/>
[https://www.iaru.org/spectrum/monitoring-system/hb9cet \(at\) iaru-r1.org](https://www.iaru.org/spectrum/monitoring-system/hb9cet (at) iaru-r1.org)

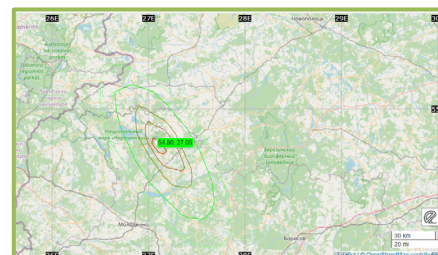
"Funkkrieg" auf 40m

Der auf 7055 kHz LSB (oft auch 7050 oder 7060 kHz) schon seit Jahren tobende russisch-ukrainische Funkkrieg hatte im Mai eine neue Eskalationsstufe erreicht. Fast täglich hörte man massivste gegenseitige Beschimpfungen und provokative Hass-Raps in russischer Sprache, sowie aggressive Musik. Ab und zu sah man auch anstössige Darstellungen im Wasserfalldiagramm. Die Urheber werden im Grenzgebiet der Ost-Ukraine zur Russischen Föderation vermutet. Im Mai traten neu digitale Störemissionen (Jammer) auf, zeitweilig bis ca 12 kHz breit, welche auch den Amateurfunk

massiv beeinträchtigen. Analysen mit dem W-Code Decoder von Wavecom ergaben keine gesicherten Resultate, es dürfte kein realer digitaler Mode gewesen sein. Funkortung mittels TDoA (Time Difference of Arrival) zu verschiedenen Zeiten und unter Verwendung verschiedene Empfänger im KIWI Netzwerk ergab Resultate in der Region um ca. 54°N / 27 - 29°E (also in Weissrussland). Die Bandwacht hat keine Mittel diesen Funkkrieges abzustellen. Hier können bloss die zuständigen Behörden mittels internationalen Beschwerden etwas unternehmen.



Störemission (Jammer) im Perseus Wasserfall



Ortung des Jammers mittels TDoA

Besten Dank an Wavecom Elektronik AG für die äusserst wertvolle Unterstützung mit der W-Code Software