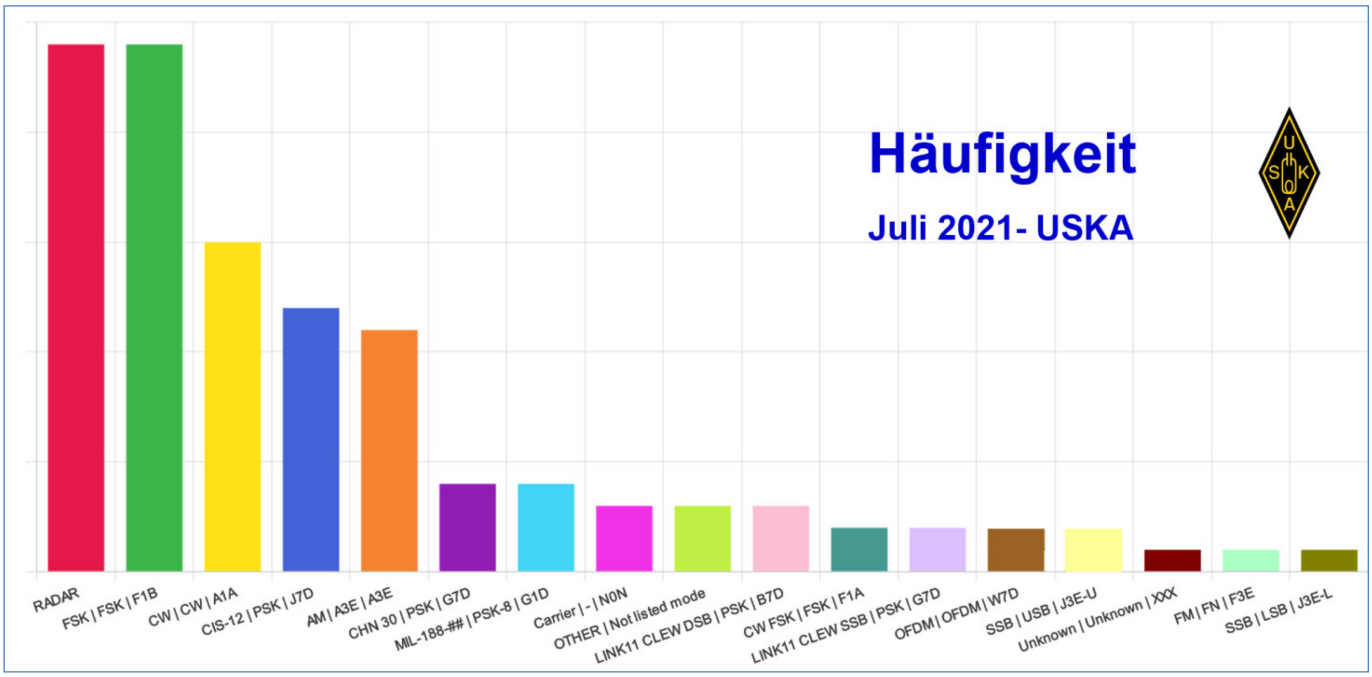
# USKA Monitoring Juli 2021

Nebst den altbekannten, teils täglich anzutreffenden Eindringlingen fielen auch neuere oder eher selten zu hörende Signale auf, z.B. das CHN30 Burst Signal aus China das wiederholt auf verschiedenen Frequenzen im 40m Band anzutreffen war. Vermehrt in unseren Bändern aktiv waren westliche (NATO) Militärsysteme, so MIL188-110A, LINK11 -CLEW und-SLEW, STANAG 4285, STANAG 4481-FSK, MIL188-141A ALE usw. Schon länger auffällig sind FSK-ARQ und PSK-ARQ Emissionen mit typischen 600Bd 600Hz oder 1200/1200, sie sind als DPRK 600 bzw 1200 bekannt und werden Nord Korea zugeschrieben. Über viele Tage hinweg war auf 7159.0 kHz (VFO) ein LINK11 CLEW im DSB Mode (double Side band, 6 kHz breit) aktiv, zeitweise eine heftig Beeinträchtigung; schon früher fiel uns diese Station mehrfach auf. Eine TDoA Ortung ergab mehrfach die Gegend südlich von Bergen (Norwegen). Während kurzer Zeit war auf 7101.8 kHz ein Stanag 4285 aktiv, TDoA Ortungen ergaben stets eine Position nördlich von Aberdeen. Auf 14301.9 kHz ist ab und zu ein OFDM60 zu finden. Bei den OTH Radaren waren fast täglich das russische Contayner sowie das britische Pluto System aus Zypern lästig. Auch Rundfunksender stören uns regelmässig. Allen voran "RFI, Radio France International" auf 7205 kHz welches spätabends von 2100-2200 UTC massiv bis gegen 7186 kHz hinunter splattert. Auf 7140 und 7180 kHz ist regelmässig "VOBM, Voice of Broad Masses" anzutreffen. CRI, China Radio International findet man oft auf 14000 (Intermodulation von 13855 und 13710 kHz). Sofern die Bedingungen es zulassen, hört man auf 18080 kHz hin und wieder die Station "Sound of Hope" aus Taiwan, oft von einem starken Jammer gestört.

Die folgende Graphik zeigt die ungefähre Häufigkeit der verschiedenen beobachteten Signale




**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 | **x** or **xxx** is used for unknown/not classified.

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

| kHz | UTC | DD | MM | ITU | IDENT | MODE | BD / sps | SH / BW | DETAILS |
|---|---|---|---|---|---|---|---|---|---|
| 7000.0 | 2141 | 19 | 07 | | | FMOP | ca 33 sps | ca 45k0E | OTHR; partially in 40m band |
| 7000.0 | 1001 | 26 | 07 | | | A1A | | ca 10H | encrypted, numbers only |

| kHz | UTC | DD | MM | ITU | IDENT | MODE | BD / sps | SH / BW | DETAILS |
|---|---|---|---|---|---|---|---|---|---|
| 7025.0 | 1617 | 23 | 07 | | | F1B | | 200H | |
| 7048.5 | 1314 | 26 | 07 | | | A1A | | ca 10H | encrypted, letters and figures |
| 7054.0 | 1615 | 20 | 07 | | | F1B | 50 Bd | 200H | weak, fading (strong via rx in JA) |
| 7057.0 | 2248 | 13 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 7058.0 | 1031 | 28 | 07 | | | F1B | | 250H | |
| 7060.0 | 0908 | 28 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; idling; submode idling |
| 7065.9 | 2046<br>2204 | 26<br>30 | 07 | | | N0N | | ca 10H | long lasting carrier often |
| 7066.0 | 2101 | 26 | 07 | | | F1A | | 200H | sometimes also F1B often |
| 7068.0 | 1411 | 15 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; idling; QRT 1414z often |
| 7072.0 | 1503 | 23 | 07 | | | F1B | 75 Bd | 200H | some fading |
| 7074.0 | 1645 | 23 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; submode idling |
| 7088.0 | 2147<br>2229 | 13<br>23 | 07 | | | F1B | 75 Bd | 250H | often |
| 7088.0 | 2210 | 31 | 07 | | | F1B | 75 Bd | 200H | |
| 7101.0 | 2142 | 13 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 7101.7 | 1724 | 09 | 07 | | | F1B | 75 Bd | 850H | STANAG 4481-FSK |
| 7108.0 | 2240 | 15 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 7108.0<br>**LSB** | vt | 20 | 07 | | | G1D<br>PSK-8 | 1800 Bd | 1k80E | PSK-8 single tone Signal, not analysed extremly weak; strong via JA and VK |
| 7111.0<br>**LSB** | 1155<br>2151 | 06<br>30 | 07 | CHN | | G7D<br>PSK-4 | 30x60 Bd | ca 2k50E | CHN30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz |
| 7128.0 | 1351 | 27 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; submode idling |
| 7140.0 | 1549 | 23 | 07 | ERI | VOBM 1 | A3E | | ca 9k0E | BC: Voice of broad Masses 1 often |
| 7140.5 | 1124 | 27 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; submode idling |
| 7154.0 | 2211 | 29 | 07 | | | F1B | | 200H | weak, (S1-2) fading |
| 7154.0<br>**LSB** | 0936 | 30 | 07 | CHN | | G7D<br>PSK-4 | 30x60 Bd | ca 2k50E | CHN30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz |
| 7157.0<br>**USB** | 0935<br>vt | 18<br>vd | 07 | | | G1D<br>PSK-8 | 1800 Bd | ca 2k0E | ca 7158.7 CF; very weak, fading often |
| 7159.0<br>**LSB** | 2257 | 24 | 07 | | | G7D<br>DQPSK | 75 Bd | ca 2k50E | LINK11 CLEW SSB mode; 16 tones |
| 7159.0 | 0612<br>1202 | 27<br>31 | 07 | | | G7D<br>DQPSK | 75 Bd | ca 6k0E | LINK11 CLEW DSB mode; 2x 16 tones |
| 7160.0 | 0746 | 01 | 07 | RUS | | J7D | 12x120 Bd | 2k70E | CIS12; submode idle |
| 7169.0 | 1541 | 23 | 07 | | | A1A | | ca 10J | CW,encrypted, numbers only |
| 7169.0 | 0743 | 26 | 07 | | | F1B | | 200H | |
| 7170.0 | 2212<br>1522 | 22<br>23 | 07 | | | F1B | 75 Bd | 200H | CIS often |
| 7171.0<br>**LSB** | 1159 | 06 | 07 | CHN | | G7D<br>PSK-4 | 30x60 Bd | ca 2k50E | CHN30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz |
| 7176.0 | 2046 | 18 | 07 | RUS | | J7D | 12x120 Bd | 2k70E | CIS12 often |
| 7180.0 | 1552 | 23 | 07 | ERI | VOBM2 | A3E | | ca. 9k0E | BC: Voice of broad Masses 2, often |
| 7186.0<br>**LSB** | 1711 | 31 | 07 | CHN | | G7D<br>PSK-4 | 30x60 Bd | ca 2k50E | CHN30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz |
| 7186.0 | 1153 | 27 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; BPSK or QPSK, with carrier at 7184 kHz; pilot at 3300Hz |
| 7197.0 | 1058 | 06 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; BPSK or QPSK, pilot at 3300Hz submode idle; long lasting |

| kHz | UTC | DD | MM | ITU | IDENT | MODE | BD / sps | SH / BW | DETAILS |
|---|---|---|---|---|---|---|---|---|---|
| 7205.0 | 2155<br>2130 | 19<br>29 | 07 | | RFI | A3E | | *ca 12k | BC; *) splattering down to 7186 kHz<br>RFI in French language; daily! |
| 14000.0 | 1410<br>1453<br>1437 | 14<br>23<br>28 | 07 | CHN? | CRI? | A3E | | ca 9k0E | BC: China Radio International - inter-modulation of 13855 and 13710 kHz: 13855 x 2 -13710 = 14000 kHz |
| 14001.5 | 0714<br>0712 | 20<br>26 | 07 | | ISR? | G1D<br>PSK8 | 2400 | ca 2k50E | MIL188-110A mod (Hybrid); Pre-amble 4 (6) tones, PSK4 75Bd 450Hz spacing (lt DK2OM: ISR NAVY) |
| 14008.0 | 1434<br>0912 | 08<br>29 | 07 | RUS | | F1B | 50 Bd | 250H | often |
| 14070.0 | 1432 | 08 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 14074.0 | 0750 | 01 | 07 | | | F1B | | 250H | |
| 14098.0 | 1527<br>1519 | 07<br>15 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; BPSK or QPSK often |
| 14098.5 | 1416<br>1344 | 13<br>26 | 07 | | | F1B/ARQ | 600 Bd | 600H | DPRK 600/600: ARQ system |
| 14099.0 | 0722 | 26 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 14108.0 | 0944<br>0814 | 13<br>26 | 07 | | | A1A | | ca 10H | CW, encrypted often |
| 14112.0 | 0941 | 13 | 07 | | | J7D | 12x120 Bd | 2k70E | CIS12; BPSK or QPSK |
| 14118.0 | 0754 | 17 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner often |
| 14123.0 | 1222 | 27 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 14146.0 | 2126 | 29 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 14161.0 | 0856 | 29 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 14189.0 | 0712 | 26 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner often |
| 14204.0 | 0908 | 03 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 14210.0 | 1013 | 26 | 07 | | | Radar | 10 sps | ca 4k50E | SuperDarn Radar?, long lasting |
| 14221.0 | 2100 | 09 | 07 | | | F1B | | 200H | long lasting; almost daily |
| 14237.0 | 1442 | 07 | 07 | | | OTHR | 10 sps | 160k0E | Wideband OTHR |
| 14279.0 | 1634 | 31 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner; long lasting |
| 14298.5 | 1240<br>1244 | 22<br>30 | 07 | | | ARQ | 600 Bd<br>1200Bd | 600H<br>1200H | DPRK: ARQ system<br>FSK and PSK mode |
| 14301.9 | 0937 | 21 | 07 | | | OFDM60 | 30Bd | 2k90E | with pilottone, tone spacing 44.1Hz |
| 18148.0 | 0903 | 28 | 07 | | | FMOP | 50 sps | 10k0E | OTHR; Bursts |
| 18164.0 | 1307 | 30 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner |
| 18166.5 | 1649 | 29 | 07 | | | A3E | | ca 9k0E | BC; unid language, sounds Arabic |
| 18172.0 | 1013 | 28 | 07 | | | FMOP | 40 sps | 12k0E | OTHR; Contayner; partially in 17m band |
| 21055.0 | 0836 | 26 | 07 | | | FMCW | 50 sps | ca 20k0E | OTHR; (most probably UK-base Cyprus) |
| 21185.0 | 1047 | 30 | 07 | | | FMOP | 40 sps | 12k0E | OTHR |
| 21190.0 | 1220<br>0925 | 22<br>29 | 07 | | | FMCW | 50 sps<br>25 sps | ca 20k0E | OTHR; (most probably UK-base Cyprus) |
| 21270.0 | 0903 | 02 | 07 | | | FMCW | 50 sps | ca 20k0E | OTHR (most probably UK-base Cyprus) |
| 21380.0 | 1016 | 02 | 07 | | | FMCW | 50 sps | ca 20k0E | OTHR (most probably UK-base Cyprus) |
| 21395.0 | 1035 | 30 | 07 | | | FMCW | 50 sps | ca 20k0E | OTHR (most probably UK-base Cyprus) |
| 21438.0 | 0851 | 08 | 07 | | RCV | A1A | | 10H | TDoA: Area of Sevastopol daily |
| 28004.96 | 1436 | 13 | 07 | | | A1A | | 10 H | Fishing buoy |
| 28015.96 | 1424 | 13 | 07 | | II | A1A | | 10 H | Fishing buoy |
| 28025.26 | 1909 | 09 | 07 | | LAU | A1A | | 10 H | Fishing buoy |
| 28025.26 | 1428 | 13 | 07 | | LAU | A1A | | 10 H | Fishing buoy |
| 28036.53 | 0824 | 02 | 07 | | CY | A1A | | 10 H | Fishing buoy |
| 28139.649 | 1649 | 09 | 07 | | AC | A1A | | 10 H | Fishing buoy |
| 28161.571 | 1219 | 09 | 07 | | A | A1A | | 10 H | Fishing buoy |

| kHz | UTC | DD | MM | ITU | IDENT | MODE | BD / sps | SH / BW | DETAILS |
|---|---|---|---|---|---|---|---|---|---|
| 28214.79 | 1522 | 08 | 07 | | | A3E | | ca. 2k10E | probably Fishing |
| 28275.0 | 1017 | 08 | 07 | | | F3E | | | Female voice; only short sequences |
| 28275.0 | 1539 | 30 | 07 | | | F1B | 51 Bd | ca 300H | short FSK bursts (4s), probably ENAGAL Fishing buoy |
| 28291.89 | 1920 | 09 | 07 | | LC | A1A | | 10 H | Fishing buoy |
| 28329.95 | 1938 | 09 | 07 | | MOR | A1A | | 10 H | Fishing buoy |
| 28366.41 | 1953 | 09 | 07 | | HL | A1A | | 10 H | Fishing buoy |
| 28395.51 | 1942 | 09 | 07 | | MTE | A1A | | 10 H | Fishing buoy |
| 28409.943 | 1549 | 06 | 07 | | IRT | A1A | | 10 H | Fishing buoy |
| 28501.0 | 1447 | 28 | 07 | IRN | | x | 150 + 313 sps | ca 45k | OTHR, Bursts; long lasting, sweep rate alternating |
| 28860.0 | 1010 | 08 | 07 | IRN | | x | 150 + 313 sps | ca 45k | OTHR, Bursts; long lasting, sweep rate alternating almost daily |

Errors and omissions excepted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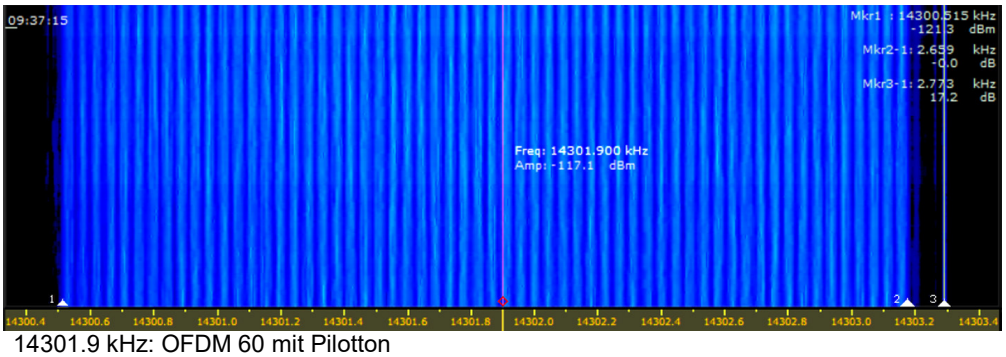
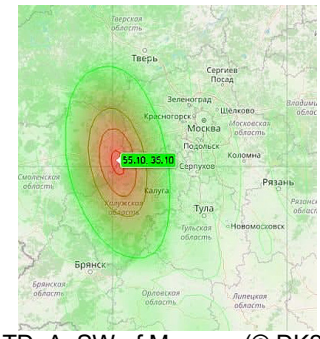
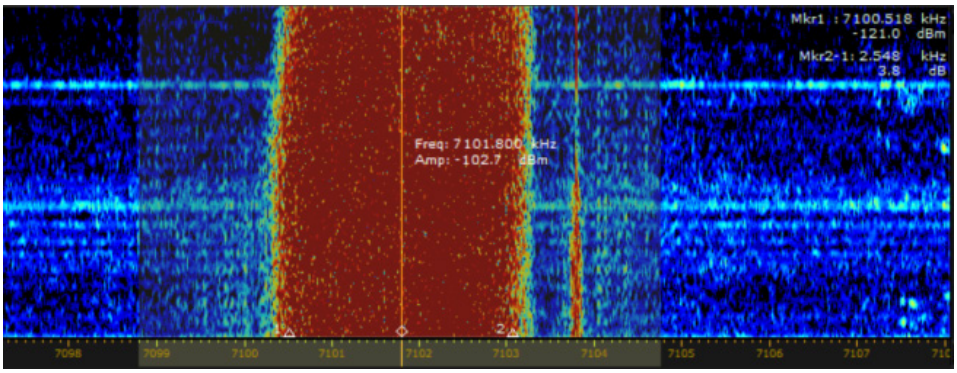


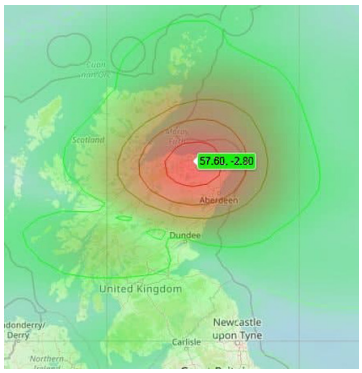
14301.9 kHz: OFDM 60 mit Pilotton



TDoA, SW of Moscow (© DK2OM)



7101.8 kHz: STANAG 4285, PSK8 2400Bd



TDoA, NE of Scotland (© DK2OM)