



Monitoring Bericht November 2023

Auch im November entsprach das Geschehen weitgehendst den Vormonaten, also vorwiegend militärische Emissionen, Fischerei, Taxifunk und andere "Funkpiraten". Wichtig erscheint mir, dass eine häufig/täglich präsente Station (z.B. 21438.kHz CW ID RCV, 18107.0 kHz FSK usw.) nur als ein Intruder gewertet wird und z.B. nicht deren 20 bzw 31.

man fast täglich Emissionen aus China, z.B. CHN30 etc. Meistens sind sie bei uns nur äusserst schwach wahrnehmbar. Wechselt man aber auf Remote Empfänger in anderen Regionen (z.B. Finnland, Japan usw) sind die Signale oft stark und können gut analysiert werden.

Auf Grund der aktuellen Ausbreitungsbedingungen findet

Ich wünsche Ihnen allen eine geruhsame Adventszeit und frohe Weihnachten.

Peter, HB9CET ↵

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** = unidentified | **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	1550	18	11			J3E-U			USB, unid language, short sequences only (Endless loop)
7000.0	2201	05	11			A3E			unid BC, very weak, fading often
7004.7	1605	08	11			G1D PSK8	2400 Bd	ca 2k7	short bursts; 1800 Hz unid single tone modem MIL 188-xxx often
7006.5	0901	16	11			F1B	50 Bd	500H	FSK, strong
7014.0	1009	06	11			J7D	12x 120 Bd	2k70E	CIS12; PSK2-A, additional carrier at 7110.0 kHz; fading
7023.0	1418	15	11			J7D	12x 120 Bd	2k70E	CIS12; PSK2-A
7025.0	1417	01	11			F1A		200H	CW-FSK
7025.0	1306	01	11			F1B	50 Bd	200H	FSK often
7050.0 LSB	1439	19	11			J3E-L		ca 3k0E	RUS-UKR Radio War Music, Voice almost daily
7051.7	1201	22	11			X		1k20E	unid signal
7054.0	1357	02	11			F1B	50 Bd	200H	FSK; Daily since very long time
7055.0 LSB	1438	19	11			J3E-L		ca 3k0E	RUS-UKR Radio War; Voice and Music almost daily
7055.0 LSB	1438	19	11			X		ca 3k0E	Jammer often
7072.0	0932	29	11			J7D		2k70E	CIS12; 12 tones + pilotone only
7073.0	1413	15	11			J7D	12x 120 Bd	2k70E	CIS12; PSK2-A,
7083.0	1604	16	11			J7D	12x 120 Bd	2k70E	CIS12
7089.0	0956	22	11			J7D	12x 120 Bd	2k70E	CIS12
7089.8	1808	28	11			G1D PSK8	2400 Bd	2k40E	LINK11 SLEW (7088.0 USB) often
7100.0	2241	29	11			F1B	75 Bd	250H	FSK
7105.0	2100	05	11			FMOP	40 sps	12k0E	OTHR; Contayner
7108.0	1739	12	11			FMOP	40 sps	12k0E	OTHR; Contayner
7111.0	1047	03	11			F1B	75 Bd	250H	FSK
7111.0 LSB	1639	26	11			PSK-4	30x 60 Bd	2k50E	CHN30 (PRC30); Burst system; Pre-ambule 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz



USKA - Bandwacht

Member of IARU Monitoring System R1

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD / sps	SH / BW	DETAILS
7134.0	1321	01	11			F1B	50 Bd	200H	FSK
7141.0 LSB	1741	22	11			PSK-4	30x 60 Bd	2k50E	CHN30 (PRC30); Burst system; Pre- amble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz very weak
7147.0 LSB	1633	25	11			PSK-4	30x 60 Bd	2k50E	CHN30 (PRC30); Burst system; Pre- amble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz weak
7150.0 USB	2014	27	11		various ID's	J7D MFSK8	125	1750	ALE MIL 188-141A
7155.0 LSB	1319 1743	01 22	11			PSK-4	30x 60 Bd	2k50E	CHN30 (PRC30); Burst system; Pre- amble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz very weak
7167.0	1342	02	11			F1B	75 Bd	200H	FSK
7169.0	2042	05	11			X		ca 9kOE	unid signal, most likely jammer often
7170.0	1456	19				FMCW	66.66 sps	10kOE	OTHR
7171.0 LSB	1633 1816 05	06 27 28	11			PSK-4	30x 60 Bd	2k50E	CHN30 (PRC30); Burst system; Pre- amble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz daily
7172.0	2024	05				FMCW	66.66 sps	10kOE	OTHR
7172.0	1447	14				F1B	75 Bd	200H	FSK
7175.5	1609	07	11			G1D		ca 1kOE	unid PSK signal
7192.0	1742	12	11			FMOP	40 sps	12kOE	OTHR; Contayner
7193.0	1341	02	11			F1B	50 Bd	200H	FSK almost daily
7198.0 LSB	1647 1336	01 02	11			PSK-4	30x 60 Bd	2k50E	CHN30 (PRC30); Burst system; Pre- amble 4x PSK4 60Bd, spacing 600Hz; Pilot tone at 450Hz
7198.5	1354	05	11			G1D PSK-8	2400 Bd	2k70E	Stanag 4285
14002.0	0932	06	11			F1B	50 Bd	850H	FSK
14026.0	0941	22	11			J7D	12x 120 Bd	2k70E	CIS12
14128.0	1718	03	11			FMOP	40 sps	12kOE	OTHR; Contayner
14146.0	1615	25				FMOP	40 sps	12kOE	OTHR; Contayner
14147.0	1549	08	11			FMOP	40 sps	12kOE	OTHR; Contayner
14159.0	1714	03	11			FMOP	40 sps	12kOE	OTHR; Contayner
14160.0 USB	1403	14	11			J3E-U		ca 3kOE	RUS-UKR Radio War; audioloop, jammed
14179.0	0959	20	11			FMCW	50 sps	10kOE	OTHR
14192.0	0819	02	11			F1B	50 Bd	200H	FSK daily
14258.0	0905	16	11			F1B	50 Bd	500H	FSK
14298.55	1419	03	11			ARQ	600 Bd	600H	DPRK ARQ FSK often
14298.625	0737	25	11			ARQ	600 Bd	600H	DPRK ARQ FSK often
18079.0	1537	02	11			FMOP	40 sps	12kOE	OTHR; Contayner
18164.0	1519	14	11			FMOP	40 sps	12kOE	OTHR; Contayner
21000.0	1103	27	11			J3E-U		ca 2k40E	Fishery; Spanish language daily
21108.42	0745	25	11			ARQ	600 Bd	600H	DPRK ARQ FSK often
21145.0 USB	0901	15	11		various	MFSK-8 J7D	8x 125 Bd	1k75	ALE MIL188-141A
21370.0	1224	01	11	G		FMCW	50 sps	20kOE	OTHR; UK base Cyprus
21382.0	0942	07	11			FMCW	66.66 sps	10kOE	OTHR; Bursts
21438.0	1337	01	11	RUS	RCV	A1A		10H	Area of Sevastopol; since years daily
28000.0	1052	07	11			A3E		ca 6kOE	Bloss kurze bursts, weibliche Stimme
28001.5	1401	14	11			X	X	2k6	unid signal
28100.125	1553	07	11			F1B	51 Bd	300H	GPS Fishing buoy, short bursts



kHz	UTC	DD	MM	ITU	IDENT	MODE	BD / sps	SH / BW	DETAILS
28100.150	1436	14	11			F1B	51 Bd	300H	GPS Fishing buoy, short bursts
28101.85	1425	14	11			F1B	51 Bd	300H	GPS Fishing buoy, short bursts
28101.90	1432	21	11			F1B	51 Bd	300H	GPS Fishing buoy, short bursts
28102.0	1427	14	11			F1B	51 Bd	300H	GPS Fishing buoy, short bursts
28105.0	1559	07	11			F3E			Taxi often
28125.0	1329	01	11	G		FMCW	50 sps	20kOE	OTHR; UK base Cyprus
28215.0	1045	29	11			F3E			Taxi
28275.0	1258	01	11			F3E			Taxi often
28280.0	0759	25	11	G		FMCW	50 sps	20kOE	OTHR; UK base Cyprus
28950.0	1424	03	11			OTHR	12	40kOE	OTHR, unid; BW 40 kHz
28985.0	1331	05	11			F3E			Taxi often
29050.0	1434	03	11			OTHR	12	40kOE	OTHR, unid; BW 40 kHz
29449.699	1631 1429	07 14	11			F1B	81.9 Bd	ca 140Hz	FSK; oceanographical measuring buoy often
29450.0	1128	05	11	IRN		OTHR	150+ 313 sps	ca 45k0	OTHR; Bursts: sweep rate alternating often
29500.0	1131 0804	05 25	11	IRN		OTHR	150+ 313 sps	ca 45k0	OTHR; Bursts: sweep rate alternating often
29550.0	1324	02	11	IRN		OTHR	150+ 313 sps	ca 45k0	OTHR; Bursts: sweep rate alternating often

Errors and omissions excepted

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Leiter USKA Bandwacht

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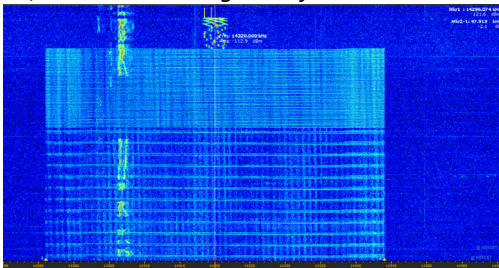
USKA Monitoring System (Intruder watch)

<https://www.uska.ch>

Member of IARU Monitoring System R1

<https://www.iaru-r1.org/spectrum/monitoring-system/>

Am 16.10. tauchte auf 14320 kHz (CF) ein unbekanntes, 48 kHz breites Signal auf.



Unid Signal, BW 48kHz Bild ©HB9CET

Kürzlich fand ich bei Antonio Anselmi (Diario SWL I-56578) in seinem Blog vom 13.11. folgende Information:

Zitat: «A new family of wideband OFDM signals has recently appeared on-air, most likely tests of Russian origin, and which - at least according to the

observations carried out so far - seems to be composed of six waveforms which for convenience I call OWF (OFDM Waveform):

- OWF3: 3 KHz bandwidth, OFDM 64-tone
- OWF6: 6 KHz bandwidth, OFDM 128-tone
- OWF12: 12 KHz bandwidth, OFDM 256-tone
- OWF24: 24 KHz bandwidth, OFDM 512-tone
- OWF48: 48 KHz bandwidth, OFDM 1024-tone
- OWF96: 96 KHz bandwidth, OFDM 2048-tone

The six waveforms share some common features:

1. initial preamble consists of an LFM segment followed by MFSK-64 37.5 Bd segment
2. MFSK segment is followed by up-chirped FMCW (Frequency Modulation Continuous Wave) sweeps
3. Data transfer is arranged in 15 OFDM blocks, separated by chirps as in 2
4. OFDM blocks have all the same speed of 37.5 Baud and same channel separation of 46.8 Hz »

Quelle: © Tony Anselmi: <https://i56578-sw.blogspot.com/2023/11/a-new-family-of-wideband-ofdm-waveforms.html>

