



IARU Monitoring System Region 1

Monthly Newsletter 4 - April 2020

edited by Peter Jost, HB9CET, assisted by Gaspar Miró, EA6AMM

News and Info's

Also April 2020 was almost identical to the previous months. Sorry if I repeat myself. Especially on the higher bands (17m to 10m) hardly any intruder could be observed. The reasons for this are still the persistently poor propagation conditions. Almost all of our coordinators reported intruders predominantly in the 20m and 40m band. The frontrunners are still the daily emissions of the Russian Over-the-Horizon Radar (OTHR) Contayner 29B6 [FMOP, bandwidth ca 12 kHz (12k0E) and 40 sweeps / s]. CIS teleprinters (F1B) were observed almost daily at 7051, 7054, 7122 and 7193 kHz. CIS 12 signals (also known as AT3004D/AT3104D, FIRE or MS5; a multi-tone system using 12 tones each modulated with 120 Bd DBPSK or DQPSK) were found less frequently. The political hate broadcasts (Russian - Ukrainian radio war) with music, hate raps and speeches at 7050 to 7060kHz are a great annoyance and a shame! At 7197 kHz, ALE (Automatic Link Establishment) MFSK8, MIL 188-141A, a Turkish disaster and emergency network has been observed daily and for many years.

For a few days now, a LINK 11 CLEW signal in DSB mode has been heard at 7159 kHz, occupying a bandwidth of 6 kHz (more details at page 14).

We often receive complaints about radio amateurs who do not adhere to the IARU band plans or otherwise behave improperly (e.g. wrong sideband). But I would like to remind again everyone, that the IARU Monitoring System does never deal with such cases, we are not a band police! Our terms of reference expressly state this since the early beginning:

The objectives of the IARUMS are the identification and initiation of steps leading to the removal from amateur bands of radio signals of non-amateur stations causing harmful interference to the amateur and amateur satellite services contrary to International Telecommunication Union (ITU) Radio Regulations.

The IARUMS shall not become involved in the monitoring and reporting of harmful interference in amateur bands caused by stations identified as or believed to be amateur stations.

For full text read here: [Terms of Reference](#)

Peter Jost, HB9CET, IARUMS R1 Coordinator a.l.

Detailed reports of national coordinators

Abbreviations used (as per IARUMS definitions)

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

DARC; Daniel, DL3RTL									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6987.00	2035	21	04			FMOP		24	splattering, s/off 2036z
7010.00	1925	21	04	RUS	29B6	FMOP	40	14	OTHR "Kontayner", s/off 1928z
7050.00	0705	05	05	CLA	unid	J3E-L			Unid clandestine radio affecting Russian-Ukrainan conflict, often

DARC; Daniel, DL3RTL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7051.00	2048	20	04	RUS	Russ. Navy	F1B	50	200	CIS 36-50
7055.00	0700	05	05	CLA	unid	J3E-L			Unid clandestine radio affecting Russian-Ukrainan conflict, often
7060.00	0710	05	05	CLA	unid	J3E-L			Unid clandestine radio affecting Russian-Ukrainan conflict, often
7062.00	2110	22	04	RUS	29B6	FMOP	40	12	OTHR "Kontayner"
7080.00	1803	20	04	RUS	Russ. Navy	F1B	50	200	CIS 36-50
10119.00	1515	20	04	RUS	29B6	FMOP	40	12	OTHR "Kontayner"
14295.00	1750	29	04	TJK	Tajik Radio 1	A3E			3 rd harmonic of 4765.00

IRTS; Michael, EI3GYB

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6991	2315	24	04			AMOP			Radar from 6991 to 7004 kHz. Strong and persistent
7003	1700	02	04	INS		LSB			Indonesian Village Radio. Men chatting and singing. Strong signals
7050	2120	18	04			FMOP			Radar from 7050 to 7074 kHz. Huge persistent signal
7055	1330	08	04	UKR/ RUS		LSB			Russian- Ukrainian radio war. Strong. Often during the month
7056	0120	09	04			FMOP			Radar from 7056 to 7078 kHz. Huge signals, persistent. All frequencies unusable
7058	1650	29	04	UKR/ RUS		LSB			Shouting of slogans. Ukrainian-Russian radio war
7060	7060	24	04	RUS/ UKR		LSB			Ukrainian-Russian radio war. Music, shouting of slogans. Very strong signal
7102	0103	09	04			FMOP			Radar from 7102 to 7116 kHz
7123	1500	06	04			F1B			Big signal, persistent
7124	1600	05	04			F1B			Big signals, persistent
7124	1230	13	04			F1B			Strong signals,
7124	1430	15	04			F1B			Strong and persistent
7126	1655	29	04			F1B			Huge signals
7138	1705	02	04			F1B			Strong signals
7138	1830	05	04			F1B			Strong signals
7138	1730	30	04			F1B			Medium strength signal
7153	2245	12	04			FMOP			Radar from 7153 to 7165 kHz. Medium strength signals
7160	0130	09	04			FMOP			Wideband radar sweeps up and down the band. Strong signals
7165	1530	14	04			FMOP			Radar from 7165 to 7178 kHz. Strong bursts
7176	1555	27	04			FMOP			Radar from 7176 to 7189 kHz.
7183	1545	22	04			FMOP			Radar from 7183 to 7197 kHz. Strong signals
7188	1130	04	04			F1B			Huge signals
7198	1435	15	04			FMOP			Radar from 7198 to 7185 kHz. Strong bursts
14000	1440	07	04	CHN		AM			Mixing product of China Radio

IRTS; Michael, EI3GYB									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									International. Also 8 th of April
14040	1605	27	04			FMOP			Radar from 14040 to 14157 kHz. Strong and persistent
14107	0740	25	04			FMOP			Radar from 14107 to 14121 kHz Strong and persistent.
14130	1610	27	04			FMOP			Radar from 14130 to 14143 kHz. Huge signals. Persistent.
14149	1015	17	04			FMOP			Radar from 14149 to 14165 kHz. Short strong bursts
14180	0750	28	04			FMOP			Radar from 14180 to 14193 kHz. Medium strength signals
14184	1000	29	04			FMOP			Radar from 14184 to 14198 kHz. Huge signals
14185	1055	27	04			FMOP			Radar from 14185 to 14200 kHz. Strong and persistent
14188	1145	13	04			FMOP			Radar from 14188 to 14201 kHz. Huge signals, persistent
14212	1210	23	04	UKR		USB			Female voice reads endless column of numbers in Russian. Ends 1220z.
14243	0800	28	04			FMOP			Radar from 14243 to 14270 kHz. Strong and persistent
14251	1320	20	04			FMOP			Radar from 14120 to 14133 kHz. Short bursts
21276	1430	20	04			FMOP			Radar from 21276 to 21303 kHz. Strong signals

MRASZ; Laci, HA7PL									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3546.0	1720	18	04			F1B		200	
3546.0	1729	20	04			F1B		200	
3546.0	1536	21	04			F1B		200	
3546.0	1719	23	04			F1B		200	
3546.4	1629	10	04			F1A		200	"21407 53734 21407 53734 K"
7000.0	1414	06	04			LSB			"HALLO, HALLO"; at 1451 again
7055.0	1411	01	04			LSB			chaos
7055.0	1216	02	04			LSB			chaos + music
7055.0	0929	04	04			LSB			chaos + music + propaganda
7055.0	1614	05	04			LSB			chaos
7055.0	1302	06	04			LSB			chaos
7055.0	1627	09	04			LSB			chaos + music + propaganda
7055.0	1304	14	04			LSB			chaos, cursing
7055.0	1635	17	04			LSB			propaganda
7055.0	1808	18	04			LSB			propaganda
7055.0	1728	20	04			LSB			chaos
7055.0	0855	25	04			LSB			music + propaganda
7055.0	1355	26	04			LSB			chaos + music
7055.0	1722	27	04			LSB			musci + political propaganda

MRASZ; Laci, HA7PL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7056.0	1717	23	04			LSB			overmodulated, music motive, singing
7093.0	1106	10	04			F1B		500	ui. digital, till 1118
7112.5	1623	17	04			F1B		250	
7135.0	1720	27	04			F1B		?	
7136.8	1607	06	04			F1A		250	"85362, 79704, 28292"
7140.0	1622	17	04	ERI		A3E/BC			Radio Eritrea
7180.0	1622	17	04	ERI		A3E/BC			Radio Eritrea
7195.0	0857	25	04			USB			rattling?
7195.0	1358	26	04			USB			rattling?
7198.7	1359	26	04			USB			music
7200.0	1400	26	04			A3E			italian ham
14006.0	0935	04	04			F1B		250	
14090.0	0813	19	04			OTHR			14082-14098 kHz

PZK; Marek, SP3AMO + Miro, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3502.0	0628	13	04			J3E-U			Maritime services Legal; [e-mail Philippe F5LTB]
3526.7	2012	8	04			F1B	50	200	S7
3527.0	2000	24	04			FSK			S3
3548.0	1746	11	04	RUS	RDL	A2A/PSK/ F1B	50	200	[S9+5dB] RDL [A2A - Numerical text]
3548.0	1815	23	04	RUS	RDL	F1B	50	200	S9 [A2A - Numerical text] 20.00 UTC QRT
3552.0	1906	6	04	RUS	RDL	A2A/PSK/ F1B	50	200	RDL. XXX XXX XXX
3558.0	1957	24	04			UI		1k	S9 5 lines every 200 Hz
3567.5	1721	22	04			F1B	50	200	S8/9
3720.0	1756	5	04			F1B	50	200	
3725.0	1952	24	04			PSK		1k	S9
7002.0	1745	21	04			FMOP		16k	OTHR [7002.0 - 7018.0 kHz] S9+5 dB [QRT 19.28 UTC]
7015.0	1944	24	04			UI		900	S9+5dB
7025.8	1714	27	04			MFSK		1k2	S7 [1718 UTC QRT]
7043.5	1949	24	04			UI		600	S9
7051.0	0458	21	04			F1B	50	200	S6/7 [06.00 UTC QRT]
7051.0	0519	23	04			F1B	50	200	S9
7051.5	2030	18	04			FMOP		20k	OTHR [7051.5 - 7071.5 kHz]
7054.0	1731	22	04			FMOP		16k	OTHR [7054.0 - 7070.0 kHz] S8
7060.0	2000	8	04			FMOP	40 sps	16k	OTHR [S 7. [7054.0 - 7070.0 kHz]
7060.0	1550	22	04			FMOP		12k	OTHR [7060.0 - 7072.0 kHz] S 7/9
7100.0	2006	8	04			FMOP	40 sps	20k	OTHR [S9+10 dB [7096.0 - 7116.0 kHz]
7122.0	1710	29	4			F1B		200	
7122.0	0510	23	04			F1B	50	200	S8 05.15 UTC QRT
7125.0	1413	27	04			MFSK		1k5	S9
7185.0	2010	8	04			FMOP	40 sps	20k	OTHR [S9+10 dB [7170.0 - 7190.0 kHz]

PZK; Marek, SP3AMO + Miro, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7185.0	1557	21	04			FMOP		10k	OTHR [7185.0 - 7195.0 kHz]
7192.5	1524	22	04			FMOP			OTHR - started [S1] + [MMN S1]
14190	1003	28	4			FMOP		24k	OTHR
14199.3	1503	27	4			MSK		300	3-5 lines visible
21174.0	0836	16	04			UI		600	S1 [RF AMP - FT767GX] e-mail John ZL1GWE
24899.0	1105	30	04			NON			S0+
24960.0	1104	30	04			NON			S0+

REF; Francis, F5MIU

kHz	UTC	DD	MM	ITU	IDENT	MODE	Baud	SH /BW	DETAILS
14260	0745	13	03			fmcw		40kHz	OTH Radar pulsed 100ms, S8
14115	0800	25	03			fmcw		15kHz	OTH Radar pulsed 25ms, S5
14260	0755	28	03			fmcw		20kHz	OTH Radar pulsed 25ms, S9+20
14190	0802	28	03			fmcw		20kHz	OTH Radar pulsed 25ms, S5

REP; José, CT4AN

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3500	23.00	14	04	E		J3E-U			Fishery
3515	22.50	03	04	F		PSK4			LINK11
7005	18.19	20	04			J3E-U			Fishery
7039	00.59	05	04	RUS	K	A1A			Beacon
7039	dly	dly	04	RUS	M	A1A			Beacon MAGADAN
7145	07.12	11	04	RUS		PSK2	120	2600	AT3004
7180	19.08	20	04	RUS		MFSK	120	3k	AT3004D
7180	dly	dly	04	ERI		9K00 A3EGN			Radio Eritrea
7200	09.05	18	04			J7D	120	2.6k	CIS12
10114	11.55	18	04			A1A			Dots
10125	11.28	18	04			J3E-U			Fishery
14135	15.01	18	04	E		J3E-L			Fishery
14140	16.00	18	04	CHN		FMOP	10	100k	OTH
14145	17.00	18	04	E		J3E-L			Fishery
14160	13.00	18	04	CHN		FMOP	10	100k	OTH
14190	15.54	10	04	CYP		FMOP	50	10k	OTH
14200	18.05	24	04	RUS		FSK	50	200	Navy
14340	10.23	18	04	CHN		FMOP	60	10k	bursts
18070	17.33	20	04	CYP		FMCW	50	20k	OTH

RSK; Kamweti, 5Z4BV

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH/ BW	DETAILS
7018	vt	occ	5		?	J3E-u			Vernacular/Kiswahili QSO
7025	0533	24	5		?	J3E-u			Vernacular/Kiswahili QSO
7040	vt	nr dly	5		?	J3E-u			Vernacular/Kiswahili QSO

RSK; Kamweti, 5Z4BV									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH/ BW	DETAILS
7075	vt	dly	5	KEN	?	PSK		2700	STANAG 4285
7140	am/ pm	dly	5	ERI	VOBM1	A3E			Commercial broadcast: Voice of the Broad Masses of Eritrea 1
7150	vt	dly	5	KEN	?	MFSK8		2000 Hz	2G ALE
7180	vt	occ	5	ERI	VOBM2	A3E			Commercial broadcast: Voice of the Broad Masses of Eritrea 2

RSGB; Richard, G4DYA									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
5362.0	1545	14	04			J7D		2K70E	USB 5360.0 / CIS-12; Primary user
7014.85	1836	24	04					3K30E	
7038.486 7038.490 7038.494	ady	dly	04	CZE	OK0EU	A1A			For info: QRP propagation beacons. CW idents offset at +40 Hz.
7051.02	2201 2104 2007 2140 1959 2125	04 19 20 21 23 28	04			F1B		200	
7060.0	2112 1700	19 22	04	RUS		P0N	40	12K0E	Container OTH radar
7065.0	1754	08	04	RUS		P0N	40	14K0E	Container OTH radar
7066.0	1541	22	04			P0N	40	12K0E	Container OTH radar
7080.0	1737 1931	24 29	04			F1B		200	
7114.0	1242	20	04			J7D		2K70E	USB 7112.0 / CIS-12
7114.0	2204	04	04			F1B		250	
7122.0	1832 2115 1703 1633 1727 1828	16 19 22 23 29 30	04	RUS		F1B	50	200	
7124.5	1929	29	04			J7D		2K70E	USB 7122.5 / CIS-12
7137.0	2127 1734 1824	28 29 30	04	RUS	RDL	F1B		250	F1A ident
7140.02	1755 1549 1738 1704 1635 1738	08 14 16 22 23 24	04	ERI	VoBM1	A3E			BC
7159.0	2042	19	04			J7D			USB Link 11 CLEW
7180.02	1756 1738 1738 1732	08 16 24 29	04	ERI	VoBM2	A3E			BC
10100.8	ady	dly	04	D	DDK9	F1B	50	450	For info: Primary user: WX broadcast
14055.0	1738	29	04	RUS		P0N	40	12K0E	Container OTH radar

RSGB; Richard, G4DYA

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14119.0	1435	24	04	RUS		PON	40	12K0E	Container OTH radar
14253.0	1235	20	04			F1B		250	RR 5.152 ?

SRAL; Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
7 MHz	1500-0620	*	4	RUS	Kontainer	FMOP	40sps	13k0E	Days: 1. 8. 12. 15. 16. 17. 22. 23. (WebSDR 15d)
7 MHz	0845-1830	*	4	CHN	UiOTHR	FMOP	10sps	10k0E	Days: 2. - 7. 9. 10. 11. 14. 15. 16. 18. 19. 23. 29.
7 MHz	1330	10 28	4	CHN	UiOTHR	FMOP	10sps	160kE	
7 MHz	1320-1430	5	4	CHN	UiOTHR	FMOP	20sps	160kE	
7008.5	0640-1210	22 27	4	RUS	UiMUX	J7D	120	2k60E	Same tx F1B 250Hz on 7006.5 kHz
7015.0	0525-1500	23 24	4	RUS	UiPTR	F1B/N0N		200H	Days: 10. 11. 12.
7020.0	-0645	31	4	RUS	UiMUX	J7D	120	2k60E	
7020.0	1410-1455/	15	4	RUS	UiCarr	N0N			
7022.0	0830-0945	22	4	RUS	UiMUX	J7D	120	2k60E	
7024.0	1540-1544/	27	4	RUS	UiPTR	F1B		250H	
7026.0	0930-0940/	17	4	RUS	UiMUX	J7D	120	2k60E	
7039.2	1245-1815	*	4	RUS	F	A1A			Beacon, days: 1. 3. 6. 7. 9. 14. 19. 23.
7039.3	1245-1430	*	4	RUS	K	A1A			Beacon, days: 1. 6. 19. 23.
7039.4	1400-1700	19 25	4	RUS	M	A1A			Beacon
7051.0	0030-0600	*	4	RUS	UiPTR	F1B		200H	Days: 1. 3. 4. 6. 8. 10. 11. 12. 14. -18. 20. - 30.
7053.0	0355-0530	17	4	RUS	UiPTR	F1B		200H	
7053.1	0820	7	4	RUS	KWI	A1A			
7054.0	1200-1700	*	4	RUS	UiPTR	F1B		200H	Days: 7. 15. 16. 19.
7057.5	0525-1535	*	4	RUS	B RTP etc	A1A			Days: 7. 8. 16. 24. 27. 29. 5BL, 5F
7083.0	1030-1320/	8	4	RUS	UiPTR	F1B		200H	
7099.5	1120	24	4	RUS	UiPTR	F1B		250H	
7104.0	0500-0845	*	4	RUS	UiPTR	F1B		500H	Days: 7. 24. 28.
7112.0	1330-1410/	20	4	RUS	UiPTR	F1B		250H	
7112.0	0845-0900	8	4	RUS	UiMUX	J7D	120	2k60E	
7114.0	1245-1300	8	4	RUS	UiMUX	J7D	120	2k60E	

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
7114.0	0500-1845	*	4	RUS	UiPTR	F1B		250H	Days: 2. 3. 5. - 8. 10. 15. 16. 18. 19. 21. 25. 28.
7117.0	0720-0730/	23	4	RUS	UiMUX	J7D	120	2k60E	
7122.0	0030-1845	dly	4	RUS	RDL	F1B/A		200H	5F
7124.0	0830-0945	22	4	RUS	UiMUX	J7D	120	2k60E	
7131.0	0830-1643/	6	4	RUS	RMP	A1A			5BL
7134.0	1530-1545	16	4		UiPTR	F1B		200H	
7137.0	1600-1830	*	4	RUS	UiPTR	F1B/ NON		250H	Days: 1. 4. - 7. 16. 29. 30.
7140.0	0330-0600	dly	4	ERI	VoBME	A3E		9k0	
7140.0	1400-1845	dly	4	ERI	VoBME	A3E		9k0	
7142.0	1015-1340/	*	4	RUS	UiPTR	F1B		250H	Days: 3. 10. 17.
7144.0	0805-0820	15	4	RUS	UiMUX	J7D	120	2k60E	
7152.0	0920	17	4	RUS	UiMUX	J7D	120	2k60E	
7158.0	1045-1115	4	4	RUS	UiPTR	F1B		250H	
7158.0	0740	7	4	RUS	BALW	A1A			5BL
7160.0	1153-1155	20	4	RUS	UiMUX	J7D	120	2k60E	
7169.0	0530-0600	10	4		UiPTR	F1B			
7178.5	0725-1210	17 20	4		UicW	A1A			5BL
7180.0	0330-0600	*	4	ERI	VoBME	A3E		9k0	Days: 1. 4. - 17. 19. 20. 21. 24. - 30.
7180.0	1400-1845	*	4	ERI	VoBME	A3E		9k0	Days: 1. 4. - 17. 19. 20. 21. 24. - 30.
7186.0	0500-1755	4	4	RUS	UiMUX	J7D	120	2k60E	
7196.0	1940	7	4		XJP7	A1A			5BL
7196.0	0600-0830	9	4	RUS	UiPTR	F1B		200	
7198.0	1040-1545	3 23	4	RUS	UiMUX	J7D	120	2k60E	
10 MHz	0545-1545	*	4	RUS	Kontainer	FMOP	40sps	13k0E	Days: 2. 15. 16. (WebSDR 15d)
14 MHz	0500-1300	*	4	CHN	UiOTHR	FMOP	67sps	10k0E	Days: 1. 7. 15. 16. 19. 20. - 28. bursts of c. 5 sec, cycle c. 50 sec
14 MHz	0500-1700	*	4	RUS	Kontainer	FMOP	40sps	13k0E	Days: 1. 4. 6. 7. 13. 15. 16. 21. 22. 23. 26. 28. (WebSDR 19d)
14 MHz	0730-0950	*	4	CHN	UiOTHR	FMCW	50sps	10k0E	Days: 8. 14. 15.
14008.0	0400-1915	1	4		UiPTR	F1B/ NON		200H/ 260H	

SRAL; Pekka, OH2BLU									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD	SH/BW	DETAILS
14046.0	0815-0817	24	4	RUS	UiMUX	J7D	120	2k60E	
14050.0	0520-1115	4 15	4	RUS	UiPTR	F1B		250H	
14221.0	0330-0600	dly	4	KAZ	UiPTR	F1B		200H	Day 22. to 0700/
14253.0	0730	6	4	RUS	UiPTR	F1B		250H	
18 MHz	0945	20	4	CYP	UiOTHR	FMCW	25/50	20k0	(WebSDR 6d)

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7000.1	2104	04	04			J3E-U			Unid people talking. Male voices.
7002	1742	08	04			FMOP	40	12K0E	OTHR Contayner, CF = 6996 kHz
7003	1928	15	04			FMOP	40	12K0E	OTHR Contayner, CF = 6995 kHz
7004	2026	16	04			FMOP	40	12K0E	OTHR Contayner, CF = 6995 kHz
7010	1811	21	04			FMOP	40	12K0E	OTHR Contayner, long-lasting
7010	1911	22	04			FMOP	10	10K0E	OTHR sweeps
7029.3	1535	14	04			J7D	120	2K60E	CIS-12 aka AT3004D
7030	2212	28	04			FMOP	10	10K0E	OTHR sweeps QSY
7051	vt	vd	04			F1B		200 Hz	Daily
7053	2007	16	04			F1B		200 Hz	
7055	vt	vd	04			J3E-L			Music, speech, propaganda, BC relaying, UKR / RUS "radiowar"
7060	1708	22	04			FMOP	40	12K0E	OTHR Contayner
7062	1947	02	04			FMOP	66.66	10K0E	OTHR bursts. "Foghorn"
7062	1748	08	04			FMOP	40	12K0E	OTHR Contayner. Long-lasting.
7063	2203	09	04			J3E-L			Numbers & letters. RUS language. Male voice. "Numbers station"
7066	1957	10	04			FMOP	40	12K0E	OTHR Contayner
7080	vt	vd	04			F1B		200 Hz	
7087	2032	16	04			FMOP	40	12K0E	OTHR Contayner
7106	0705	07	04			J7D			MIL-188-141A - ALE
7106	2023	15	04			FMOP	40	12K0E	OTHR Contayner
7114	vt	vd	04			F1B		250 Hz	often
7115	2039	16	04			FMOP		10K0E	OTHR bursts
7121	2053	12	04	CHN					Datalink, CHN30 aka PRC30
7122	vt	vd	04			F1B	200		Almost daily
7124.5	1426	27	04			J7D	120	2K60E	CIS-12 aka AT3004D, 12 x 120 Bd
7128	0622	11	04			J7D	120	2K60E	CIS-12 aka AT3004D
7130	2134	08	04			FMOP	10	10K0E	OTHR sweeps.
7137	vt	vd	04			F1B		200 Hz	
7137	1926	05	04			F1B		250 Hz	
7140.0	vt	vd	04	ERI	VOBM1	A3E			BC "Voice of Broad Masses 1"
7144	1904	22	04			F1B		250 Hz	
7151.8	0920	17	04			J7D	120	2K60E	CIS-12 aka AT3004D

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7157.8	0946	17	04			A1A			Illegal beacon
7160	0747	21	04			A1A	21 16		2 unid stations TX figures and letters. Some CW Cyrillic characters
7165	2108	08	04			FMOP	40	12K0E	OTHR Contayner
7170	2207	28	04			FMOP	10	10K0E	OTHR sweeps
7172	2058	04	04			FMOP	10	10K0E	OTHR sweeps, QSY
7178	2126	21	04			FMCW	10	10K0E	OTHR sweeps
7180.0	vt	vd	04	ERI	VOBM 2	A3E			BC "Voice of Broad Masses 2"
7182.5	1913	12	04			XXX		1K20E	Unknown digital signal
7185	1953	15	04			FMOP	10	10K0E	OTHR Sweeps. QSY
7186	0634	04	04			J7D	120	2K6E	CIS-12 aka AT3004D, long-lasting Also on 11 & 12/04
7184	1817	09	04			FMOP	50	10K0E	OTHR bursts. Burst ca. 5 sec. "Foghorn"
7185	1827	16	04			FMOP	10	10K0E	OTHR sweeps
7186	1807	09	04			FMOP	40	12K0E	OTHR Contayner
7188	0053	26	04			FMOP	40	12K0E	OTHR Contayner, long-lasting.
7191	1918	12	04			FMOP	40	12K0E	OTHR Contayner
7195	1929	03	04			FMOP	20	10K0E	OTHR sweeps, QSY
7190	2157	09	04			FMOP	10	10K0E	OTHR sweeps, QSY. Also on 11/04
10109	1154	10	04			FMOP	40	12K0E	OTHR Contayner
7198	1806	09	04			J7D			MIL-188-141-A ALE
10111	1406	07	04			FMOP	40	12K0E	OTHR Contayner
10119	2101	06	04			FMOP	40	12K0E	OTHR Contayner, long-lasting.
10124	vt	vd	04			FMCW	7	10K0E	OTHR radar sweeps. Sweep = 18 sec. Long-lasting. Also on 13, 14. Video: https://bit.ly/2Rx4UGc
10127	1525	14	04			FMCW	10	10K0E	OTHR sweeps
10140	1322	15	04			FMOP	40	12K0E	OTHR Contayner. CF = 10152 kHz
10145	1816	20	04			FMOP	40	12K0E	OTHR Contayner. CF = 10154 kHz
10149	1438	13	04			FMOP	40	12K0E	OTHR Contayner. CF = 10158 kHz Splatter to 10149 kHz
10156	2022	02	04			FMOP	40	20KE	OTH radar. Long-lasting
14003	0623	17	04			FMOP	40	12K0E	OTHR Contayner CF = 13996 kHz
14008.6	0627	10	04			F1B	600	600	DPRK-FSK 600 ARQ
14048.5	0648	03	04			XXX	600	1K2E	DPRK modem. Most probably BPSK 1200 variant. Also on 08/04.
14055	0656	18	04			FMOP	40	12K0E	OTHR Contayner
14061	0653	07	04			FMOP	40	12K0E	OTHR Contayner
14062	0711	17	04			FMOP	40	12K0E	OTHR Contayner
14090	0923	09	04			FMOP	40	12K0E	OTHR Contayner
14096	0711	17	04			FMOP	40	12K0E	OTHR Contayner
14113.5	0632	12	04			F1B	600	600 Hz	DPRK-FSK 600 ARQ
14114	0654	08	04			FMOP	40	12K0E	OTHR Contayner
14134	0654	08	04			FMOP	40	12K0E	OTHR Contayner
14130	1634	19	04			FMOP	40	12K0E	OTHR Contayner

URE; Gaspar, EA6AMM									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14135	1423	19	04			FMOP	40	12K0E	OTHR Contayner
14140	1149	19	04			FMOP	40	12K0E	OTHR Contayner
14156	0856	27	04			FMOP	40	12K0E	OTHR Contayner
14161	1412	13	04			FMOP	40	12K0E	OTHR Contayner
14164	1450	18	04			FMOP	40	12K0E	OTHR Contayner Long-lasting.
14168	1308	13	04			FMCW	10	10K0E	OTHR
14181	1342	13	04			FMOP	40	12K0E	OTHR Contayner
14180	0632	03	04			FMOP	40	12K0E	OTHR Contayner
14182	0700	07	04			FMOP	10	10K0E	OTHR sweeps
14182	1305	13	04			FMOP	40	12K0E	OTHR Contayner
14183	0939	18	04			FMOP	40	12K0E	OTHR Contayner
14185	0856	27	04			FMOP	40	12K0E	OTHR Contayner
14185	1139	28	04			FMOP	40	12K0E	OTHR Contayner
14187	1618	14	04			FMOP	40	12K0E	OTHR Contayner
14187	0915	27	04			FMOP	10	10K0E	OTHR sweeps
14190	0833	28	04			FMOP	40	12K0E	OTHR Contayner
14191	1149	19	04			FMOP	40	12K0E	OTHR Contayner
14192	0609	03	04			FMOP	10	10K0E	OTHR sweeps, QSY
14192	0738	14	04			FMOP	40	12K0E	OTHR Contayner
14210	0926	09	04			FMOP	10	10K0E	OTHR sweeps, QSY
14221	0605	03	04			F1B		200 Hz	
14222	1804	09	04			J3E-U			Spanish fishery
14253	1349	10	04			F1B		200 Hz	
14253	0656	27	04			F1B		250 Hz	
14340	0631	10	04			FMOP	40	12K0E	OTHR Contayner, long-lasting

USKA; Peter, HB9CET									
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!									
3500.0	2225	30	04			J3E-U		ca 2k6	unid language
3527.0	2046	14	04			F1B	50	200	almost daily
3581.8	2050 vt	14 vd	04			G1D PSK8	2400	3K00E	STANAG 4285 often
3784.5	2052	14	04			G1D PSK8	2400	2k70E	MIL 188-110A (D2) mod (Hybrid) preamble 4 tones, PSK4 75Bd 450Hz spacing
7010.0	1728	21	04			FMOP	40 sps	12k0E	OTHR; Contayner 29B6
7022.0	0829	22	04			J7D	12x120	2k7	PSK-2; CIS12 aka AT3004D
7051.0	2119 vt	01 vd	04			F1B	50	200	almost daily
7054.0	1622	02	04			F1B	50	200	
7062.0	2131	22	04			FMOP	40 sps	12k0E	OTHR; Contayner 29B6
7063.0	2044	18	04			FMOP	40 sps	12k0E	OTHR; Contayner 29B6
7067.0	2126	08	04			FMOP	40 sps	12k0E	OTHR; Contayner 29B6
7080.0	1941 2009	20 28	04			F1B	50	200	often

USKA; Peter, HB9CET									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD / sps	SH / BW	DETAILS
7100.0	2055	09	04			FMCW	47 sps	ca 10k	OTHR
7106.0	2053	15	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
7108.0	2056	08	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
7111.0 LSB	0842	15	04	CHN		OFDM30 PSK-4	30x60Bd	2k50E	CHN-30 (PRC30); Burst system; tone spacing 75 Hz; Preamble 4x PSK4 60Bd, spacing 600Hz; Pilottone
7114.0	2115 vt	01 vd	04			F1B	50	250	often
7122.0	0823	01	04		RDL	F1B	50	200	CIS 50-50 almost daily
7122.0	2059	20	04		RDL	F1A		200	figures and letters almost daily
7122.1	0823 0830	01 23	04			A1			Jammer: Dashes and dots; stupid and illegal!
7123.5	2116	01	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
7124.0	0834	22	04			J7D	12x120	2k70E	PSK-2; CIS12 aka AT3004D
7124.5	1418	27	04			J7D	12x120	2k70E	PSK-2; CIS12 aka AT3004D
7134.0	1601	11	04			F1B	50	200	often
7137.0	2130 1613	10 22	04		RDL	F1B	50	250	CIS 36-50 often
7137.0	1615	22	04		RDL	F1A		250	CIS 36-50 often
7140.0	1603	11	04	ERI	VOBM	A3E		~ 9k	BC: Voice of the broad Masses 1 daily
7144.0	0826	01	04			J7D	12x120	2k70E	PSK-2; CIS12 aka AT3004D often
7155.5	1326	17	04			OFDMxx	X	3k00E	unident OFDM; bursts
7159.0	1401	19	04			G7D	14x75	3K00E	DQPSK: LINK 11 CLEW SSB Mode long lasting ! (see pictures below)
7164.0	2104	08	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
7180.0	1556	11	04	ERI	VOBM2	A3E		~ 9k	BC: Voice of the broad Masses 2 often
7186.0	0813	04	04			J7D	12x120	2k70E	PSK-2; CIS12 aka AT3004D
7197.0	2111	08	04	TUR	358013	MFSK8	125	1750	ALE, MIL 188-141A; TUR Emergency Network
7198.0	1529 1356	03 28	04			J7D	12x120	2k7	PSK-2; CIS12 aka AT3004D often
14000.0	1453	02	04	CHN	CRI	A3E		ca 10k	English; China Radio International
14000.0	1429	30	04			N0N			long lasting carrier
14003.0	0856	21	04			F1B	75	250	
14008.0	0735 vt	01 vd	04			F1B	50	250	often
14091.0	1134	02	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14103.0	0932	02	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14112.0	1539	29	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14114.0	1138	24	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14119.0	1330	29	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14135.0	1430	19	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14140.0	1154	19	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14153.0	0818	27	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14160.0	0748	15	04			F1B	75	250	
14185.0	1357	23	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14188.0	1553	16	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14191.0	1436 vt	09 vd	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6 often
14198.0	1540	09	04			FMOP	40 sps	12kOE	OTHR; Contayner 29B6
14253.0	1524 0745	10 27	04			F1B	75	250	CIS 75-250 often
14264.0	0937	08	04			FMOP	50 sps	10k	OTHR; long lasting

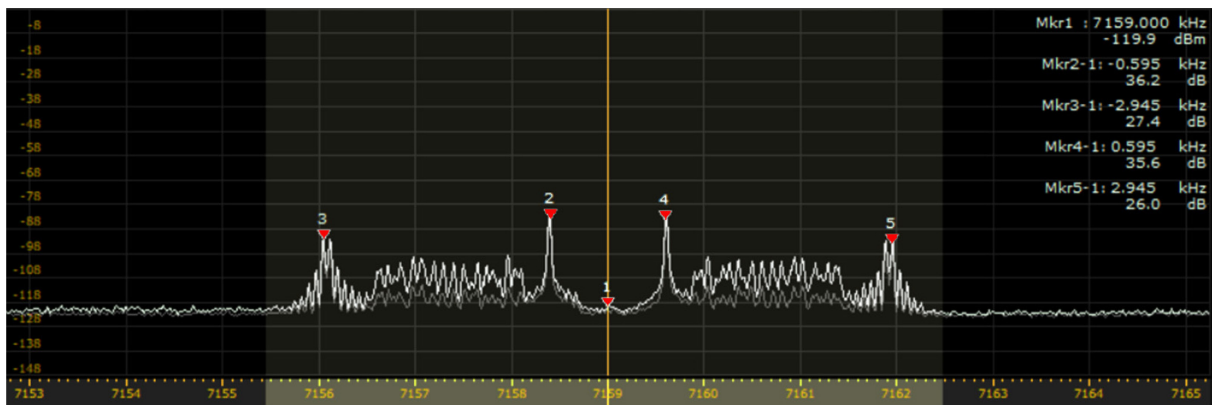
USKA; Peter, HB9CET									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD / sps	SH / BW	DETAILS
14302.0	1319	30	04			FMOP	40 sps	12k0E	OTHR; Contayner 29B6
14328.0	1533	29	04			FMOP	40 sps	12k0E	OTHR; Contayner 29B6
18080.0	0714	18	04	TWN	Sound of Hope	A3E		ca 12k	BC; Chinese language often
18107.0	0850	23	04			F1B	36 + 50	200	CIS 36-50 often

VERON; Ruud, PG1R									
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
3525.0	19.54	21	04	CIS	UiCW	A1A			5BL ending 552 K
3527.0	20.05	20	04	CIS	UiPTR	F1B			Revs/Ptr
3548.0	20.10	20	04	CIS	UiPTR	F1B			Revs/Ptr
3548.0	19.46	21	04	CIS	UiCW	F1A			5F
7022.0	1525	06	04	RUS	UiPtr	F1B		200 Hz	Ptr idle also 19.12 utc
7051.0	vt	vd	04	RUS	UiPtr	F1B		200	Almost daily; sometimes bad modulation; S8-S9
7055.0	1829	08	04		UiBC	LSB			Male political talk Russian S-9
7055.0	1821	10	04		UiBC	LSB			Political statements Russian
7055.0	1748	11	04	UKR		J3E-L		2k80E	Slogans; 2 TX; S9
7109.0	1631	18	04			J3E-L		3k00E	Music
7114.0	2003	11	04		UiPtr	F1B		250	S9
7122.0	vt	vd	04	RUS	UiPtr	F1B		200	Almost daily; S4-S7
7122.0	0835	04	04	RUS	RDL	F1B	50	200	revs, ptr
7122.0	0925	04	04	RUS	RDL	F1A	25wpm		morse
7122.0	0852	16	04	RUS	RDL	A1A	25wpm		dotter
7122.0	0854	16	04	RUS	RDL	A1A	25wpm		RDL 9764 29878 (etc 5F)
7122.0	0857	16	04	RUS	RDL	A1A	25wpm		dotter
7122.0	1732	28	04	RUS	UiPtr	F1B			Ptr
7137.0	1820	01	04	RUS	UiPtr	F1B		200 Hz	Ptr
7137.0	1914	06	04	RUS	UiPtr	F1B			Ptr
7137.0	17.35	07	04	CIS	UiPTR	F1B			Revs/Ptr
7196.0	0904	01	04	?	TXHK	A1A	24wpm		VVV IKET DE TXHK K
7196.0	0906	01	04	?	TXHK	A1A	24wpm		VVV LTDB DE TXHK K
7196.0	0907	01	04	?	TXHK	A1A	24wm		LTDB DE TXHK R K
7196.0	0811	11	04	?	ZUGN	A1A	25wpm		LEIZ DE ZUGN QTC 406 19 11 1129 406 = ZIC 986 = (5BL) ending 315
14008.0	09.10	01	04	CIS	UIPTR	F1B			Carrier/Revs/Ptr
14008.0	0929	03	04	RUS	UiPtr	F1B		200 Hz	Ptr
14008.0	0914	08	04	RUS	UiPtr	F1B		200 Hz	Ptr+ idle
14164.0	1440	18	04		UiRadar	FMOP	40sps	ca12k	OTHR; CF
14263.0	1445	14	04	RUS	OTHR	FMOP			radar
14342.0	1021	10	04	RUS	OTHR	FMOP			Radar 53 N 55E Rus

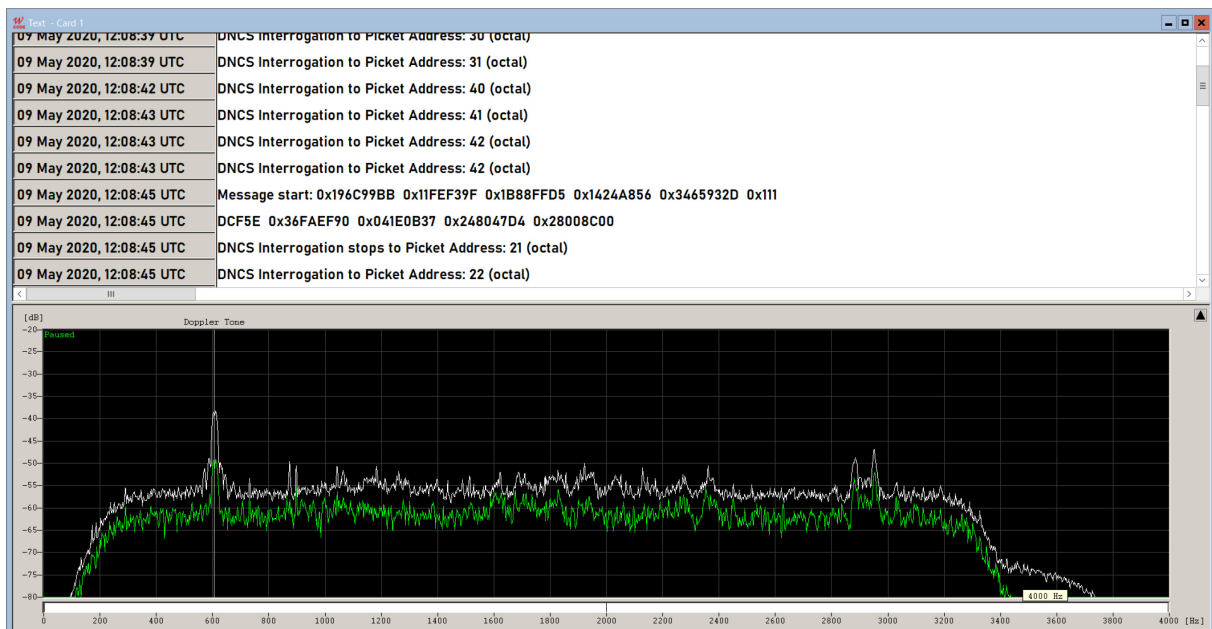
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Contacts: Peter Jost HB9CET hb9cet@iaru-r1.org
 Gaspar Miró EA6AMM ea6amm@gmail.com

LINK 11 CLEW, DSB Mode



Spectrum with Perseus SDR (found at 7159 kHz)



Signal decoding, using Wavecom W-Code Software

LINK 11 CLEW (Conventional Link Eleven Waveform) is a NATO Standard for tactical data exchange. The mode has 16 carriers: one unmodulated Doppler tone at 605 Hz; 14 data carriers starting at 935 Hz with a tone spacing of 110 Hz and the 16th carrier at 2915 Hz is used for data and synchronization. Except the Doppler tone, the modulation is DQPSK, symbol rate 75Bd.