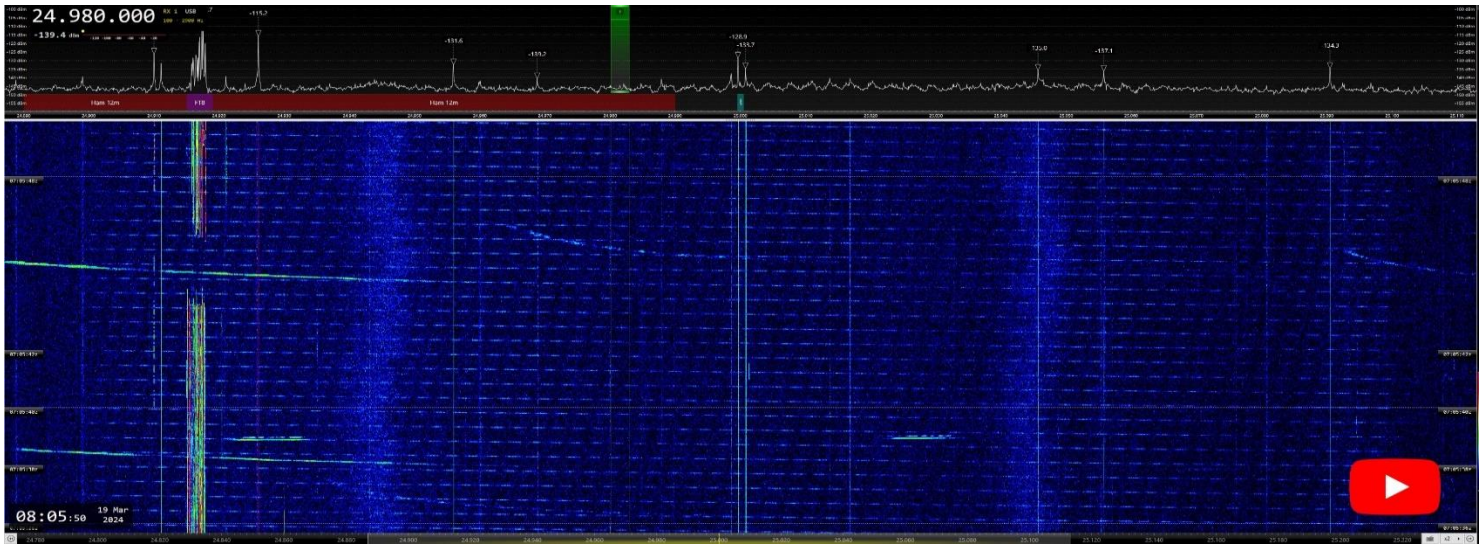
- Video feature: *click on the "play" red icons in the text or in the images of the Newsletter to watch the videos*

- IARUMS Wiki: *find more information, screenshots, videos and recordings of the transmission modes most used by non-amateur stations on the amateur radio bands: https://www.iaru-r1.org/spectrum/monitoring-system/iarums-wiki/*

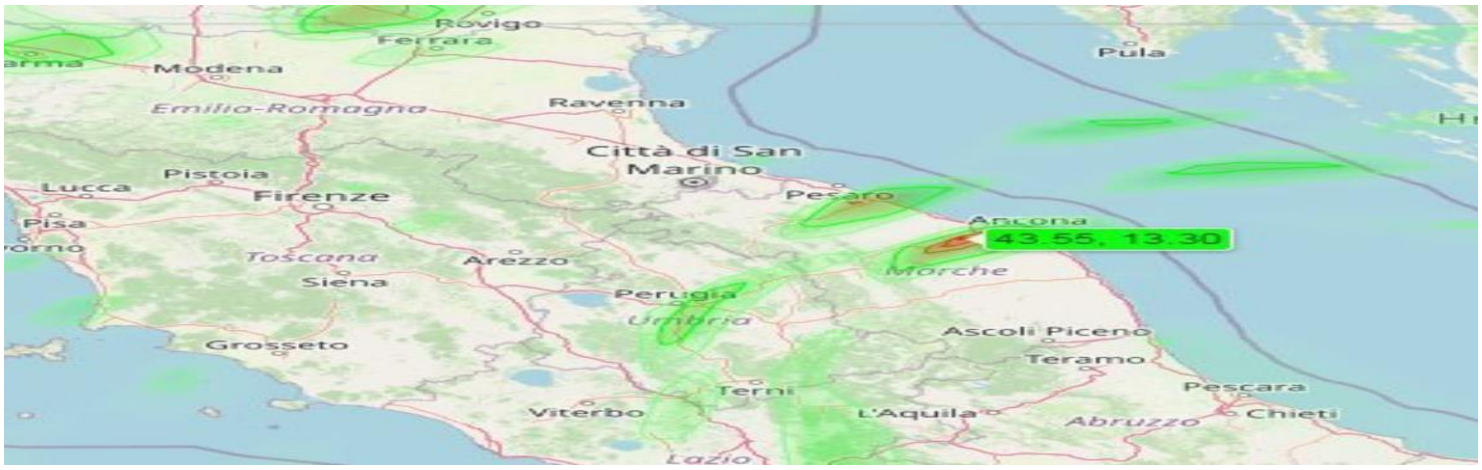
IARUMS R1 action

On March the 14th, a CODAR radar (CODAR: *Coastal Ocean Dynamics Applications Radar*) was observed on 25000 kHz CF. Since then, it has been received daily on that frequency. ITU: I (Italy). BW =200 kHz. 2 sps (from 24900 to 25100 kHz). It interferes almost the whole 12 meters amateur radio band (24890 kHz to 24990 kHz).

The IARU Monitoring System Region 1 has started an action, currently ongoing, about this radar.
Also, the DARC (Germany) IARUMS national coordinator, Harald, DL9NDW, informed the German Federal Network Agency (BNetzA) about this radar's case.



25000 kHz CF: CODAR radar, 12m amateur radio band from 24900 to 24990 kHz. BW = 200 kHz. 2 sps. ITU: I (Italy). Daily since March the 14th.

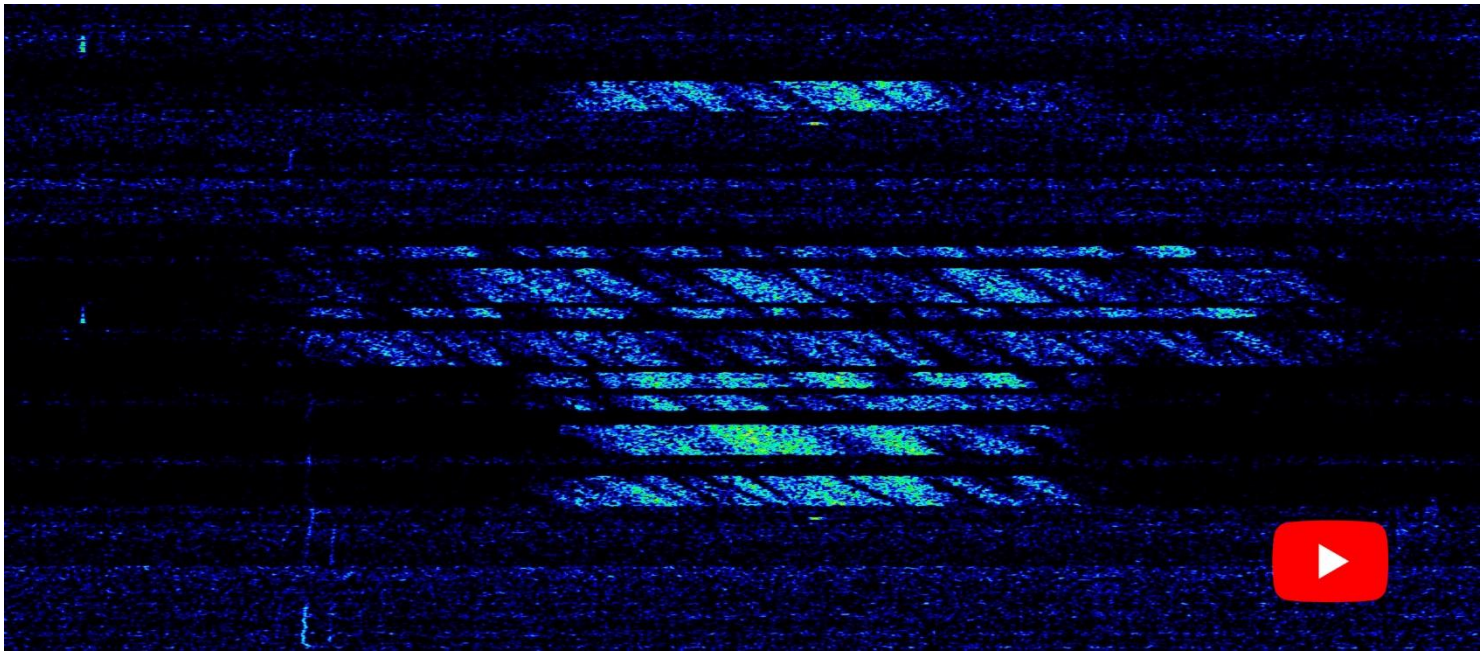


25000 kHz CODAR radar Radiolocation with KiwiSDR TDoA, showing the area of Ancona (Italy). By Wolf, DK2OM

© IARU Monitoring System R1

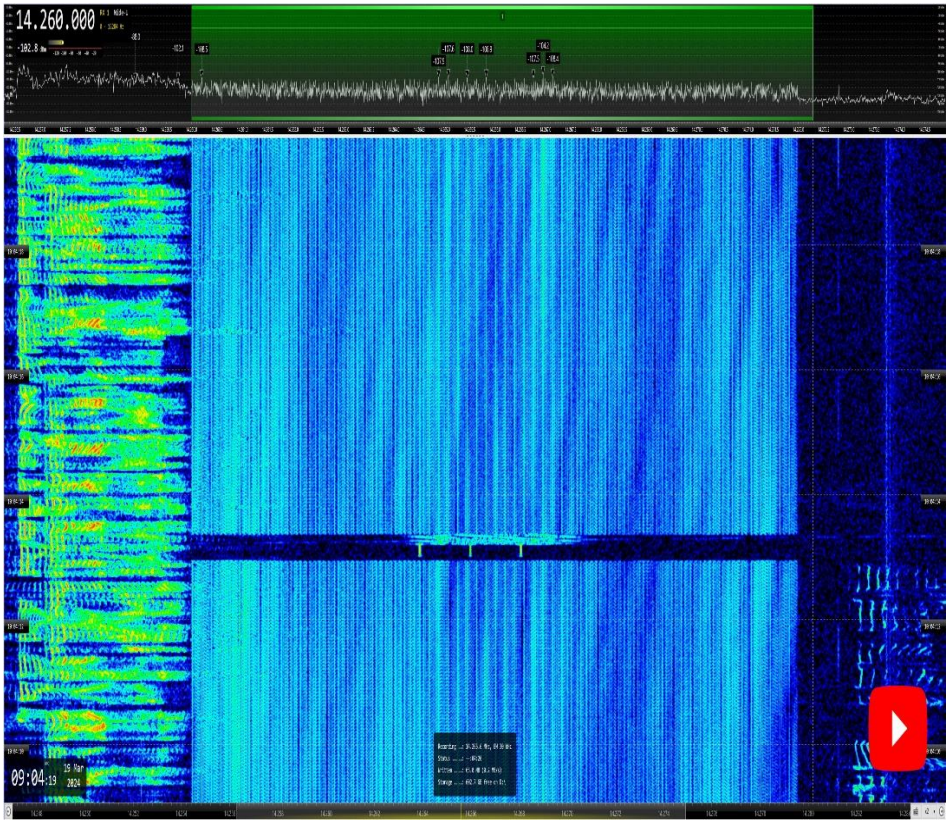
News and info

During March we received WHARQ (Wideband HF Hybrid Automatic Repeat Request) transmissions in the 40-meter band. This L3Harris proprietary MIL mode uses different modulations and up to 8 different bandwidths during the transmissions.

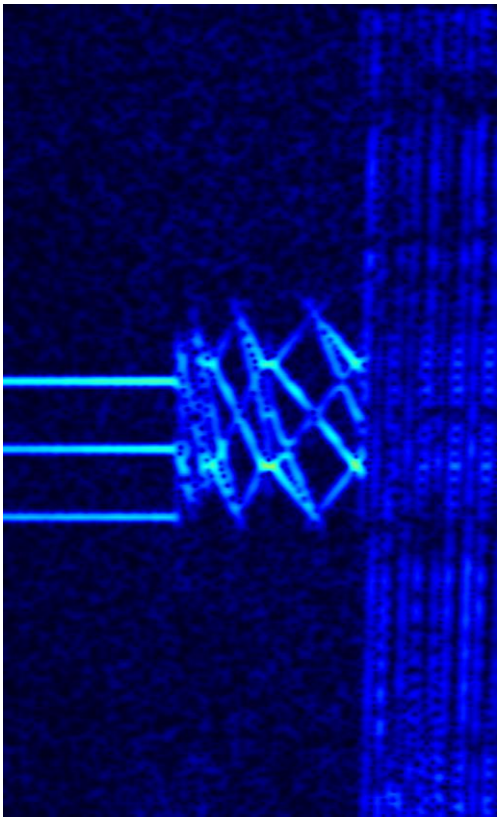


7005 kHz CF: WHARQ transmission

On the 20-meter band we received two transmissions of a variant of a wideband OFDM mode. This mode, which uses uses several bandwidths (3 kHz, 12 kHz, 24 kHz, 48 kHz and 96 kHz), has been observed a few times in this band since October 2023 (using, then, 12 and 48 kHz BWs), using a header composed by 4 tones, followed by some complex chirps and an MFSK part . This time, on March the 18th, it was received on 14266 kHz CF, but the transmission didn't use the MFSK part in its header (which seemed to be formed by 3 tones only, and the chirps), nor the OFDM data segments. BW = 12K0E

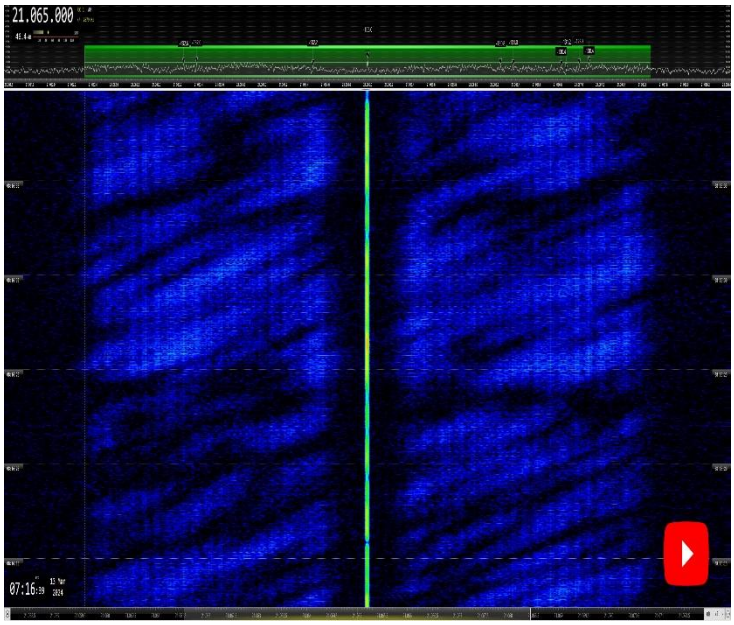


14260 kHz CF: XXX, with short intro tones and chirps. BW = 12K0E

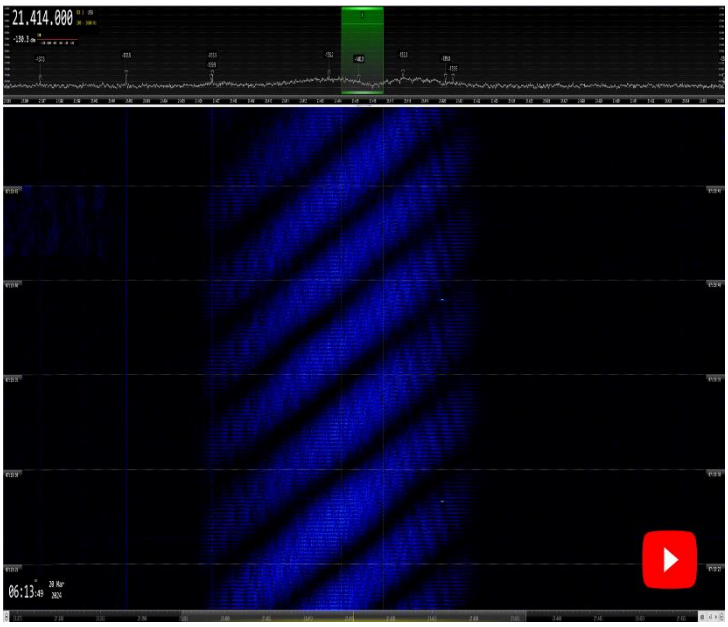


14260 kHz CF XXX header detail

On the 15-meters band, like on February, we received some strange AM transmissions on 21000 kHz CF, on 21065 kHz CF and on 21125 kHz CF, whose purpose and origine are still unknown. With a central carrier, using a maximum bandwidth on 10 kHz, they alternate signals with various different bandwidths and with several modulation types (like QPSK OFDM with different number of tones, MFSK and others) most of them, unknown.
We also received very often long-lasting transmissions on 21414 kHz CF of an unknown signal using an approximate bandwidth of 14 kHz.

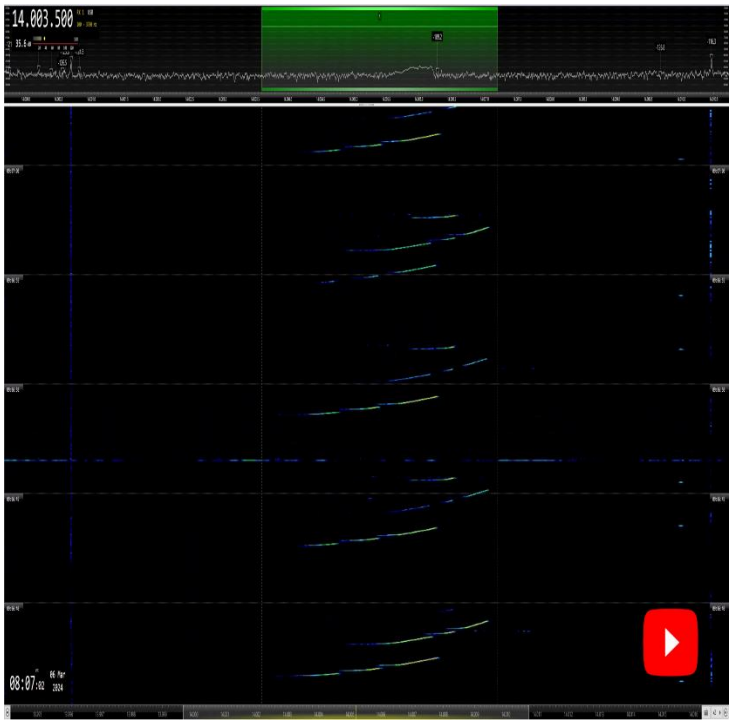


21065 kHz CF: XXX. AM TX. Various bandwidths and modulations

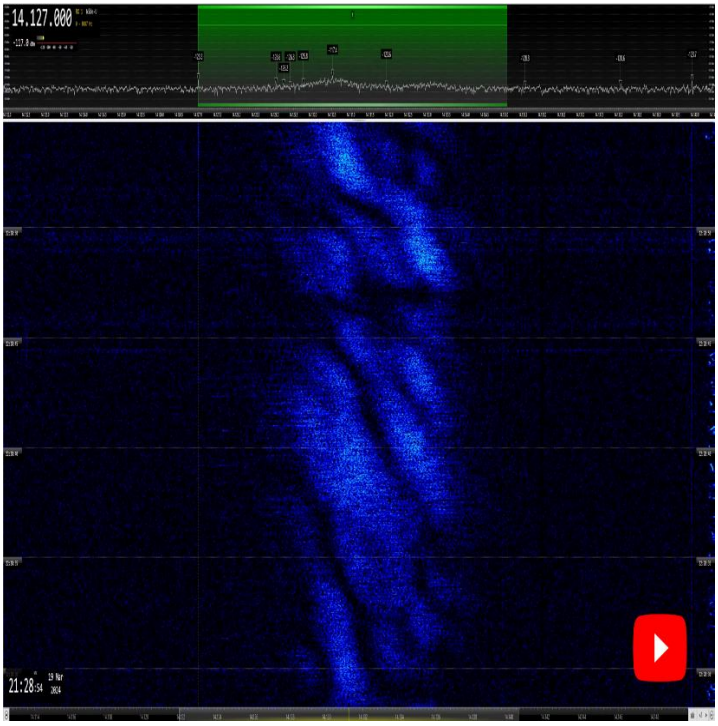


21414 kHz CF: XXX. BW ca 14 kHz. Long-lasting

To close the chapter of rare non-amateur transmissions received during March, we come back to the 20 m band, where we received daily the same burst we had received on February, which sounded like whistles (QRG: 14005 kHz Cf and 14285 kHz CF, simultaneously and long-lasting. BW ca 3K40E, BD ca 3 sec. BRI ca 3 sec.). Fortunately, these transmissions stopped on March the 13th. On the same band, daily from the 19th to the 31th, we observed long-lasting transmission of an unknown signal apparently generated from a 100 Hz tone, frequency modulated.



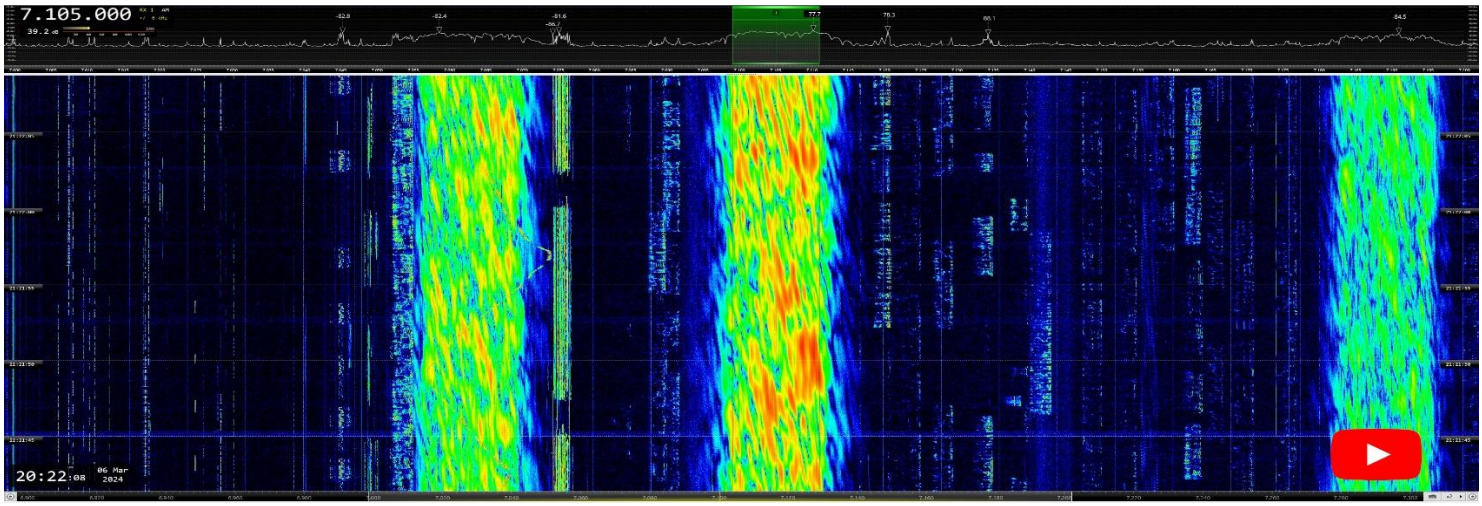
14005.5 kHz CF: XXX. Unidentified bursts, like whistles. Long-lasting



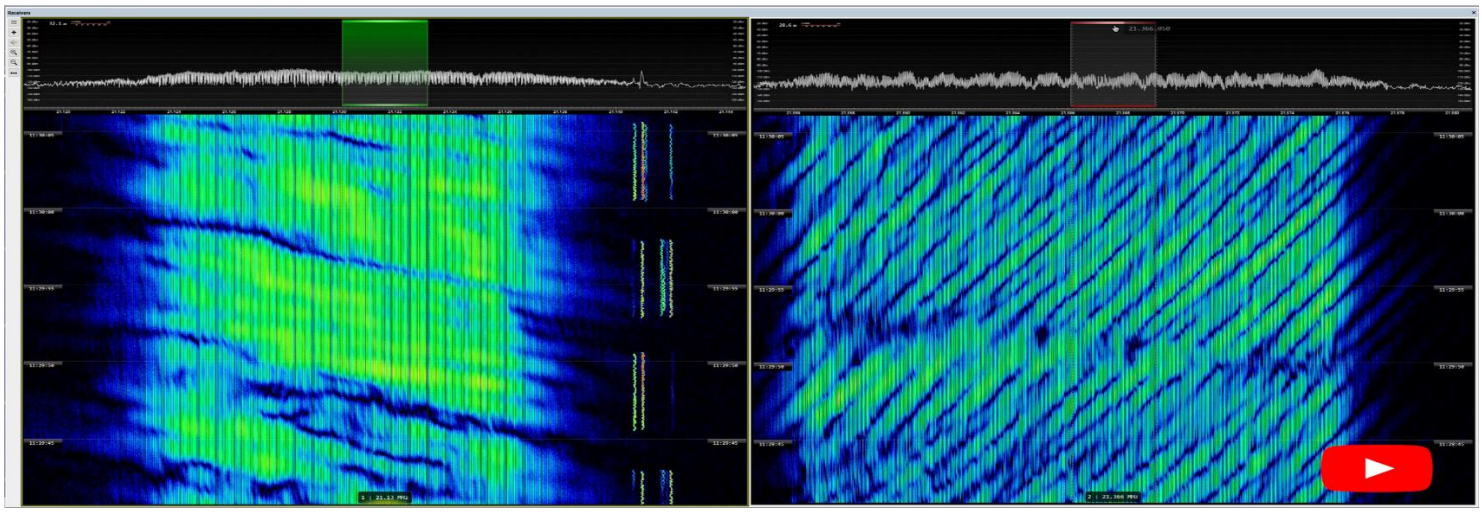
14131.5 kHz CF: XXX. BW ca 4 kHz. Long-lasting

Radars

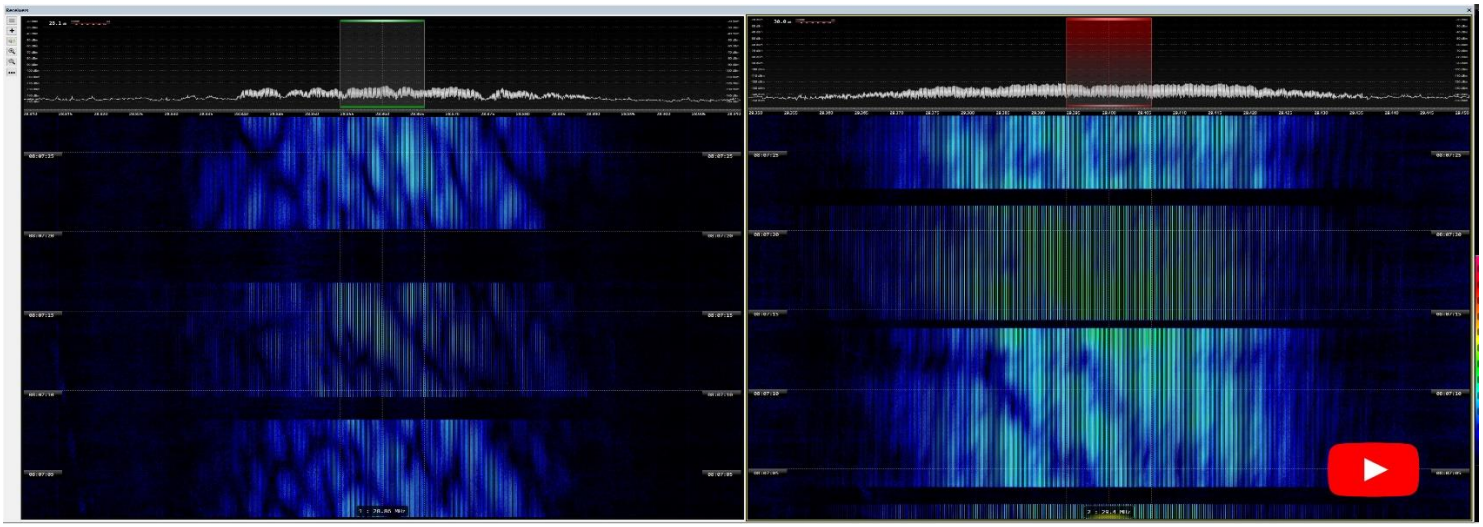
Apart from the recently observer CODAR radar on 25000 kHz which interferes almost the whole 12 m band, we could unfortunately summarize their activity during March 2024 by just saying that it was *business as usual.* They are the worst nightmare for the amateur radio bands due to the huge amount of power used in their transmission and the big amount of spectrum they use in the HAM bands, making our bands shrink. Just some examples of this:



3 X OTHR Contayner on 40 m. RUS. BW = 12K0E (real bandwidth of the signal can be larger). 40 sps. About 60 kHz lost for amateur radio operations



OTHR Contayner (RUS: BW = 12K0E. 40 sps) + OTHR G. (UK SBA, Cyprus. BW = 20K0E. 50 sps) on 15m. About 45 kHz lost for amateur radio operation



2 X OTHR IRN on 10m. BW ca 45K0E. Alternating 150 sps and 313 sps bursts. One of them, hopping. About 110 kHz lost for for amateur radio operations

Of course, apart from these examples, we received many other transmissions sent by the above radars, but also by different ones, like,

- Wideband Chinese OTHR. BW = 160 kHz. 10 sps (15m)
- OTHR. BW = 40 kHz. 12.5 sps. Most probably, G; UK SBA, Cyprus. (10m)
- Chinese OTHR BW =10 kHz, 50 sps (15 m)
- Chinese “Foghorn” OTHR bursts (40, 30, 20, 15, and 12 m)

MIL & GOV

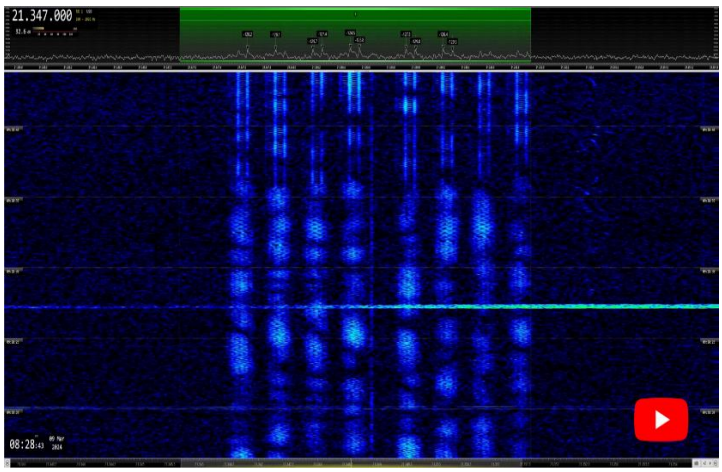
Like the seasons, which come and go, many “seasonal” CIS-## FSK (F1B) transmissions came back during March to the HF amateur bands. That’s the case, for example, of the well-known RUS F1B shift = 200 Hz, 50 Bd on 7054 kHz CF and CIS 36-50 (F1B and F1A) on 7080 kHz CF (ID: “RDL”); or the RUS F1B shift = 250 Hz, 50 Bd on 14008 kHz CF; or the RUS navy CIS 36-50 (F1B and F1A) “RDL” station daily transmissions on 18107 kHz CF. These transmissions come and go every year since a long time ago, due to schedule reasons, or other.

Below, an example of CIS 36-50 transmission on 18107 kHz CF (ID: “RDL”. RUS navy). This mode has the particularity of being able to send FSK telegraphy for automatic reception(F1B) and FSK telegraphy for aural reception (F1A). The F1A part of the transmissions, sent on Morse code, can be decoded by listening to the upper frequency with a narrow filter. These F1A segments can also be heard and decoded on the CIS 36-50 transmissions on 7080 kHz CF (RUS. ID, also “RDL”).

18107 kHz CF: CIS 36-50. F1B and F1A.Shift = 200 Hz. 50 Bd. RUS navy station „RDL“. F1A part Morse decoding (encrypted)

During March we received other types of MIL or GOV transmissions in the amateur radio bands, like MIL-188-141A ALE 2G (MFSK-8. J7D. BW = 1K80E. 125 Bd), mostly on the 15m band but also on 20 and 40m, or like, mostly on 15 m, the CHN 4+4, a.k.a PRC 4+4 (PSK 4. G7D. BW = 2K40E. 75 Bd):

2 X MIL-188-141A ALE 2 G on 15m (Ids: BC5 and DB5)

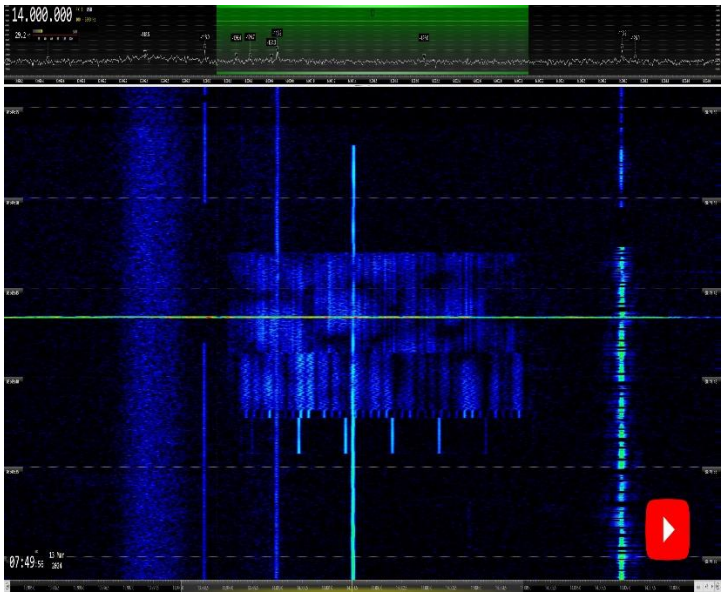


21347 kHz USB: CHN 4+4 transmission, a-k.a PRC 4+4

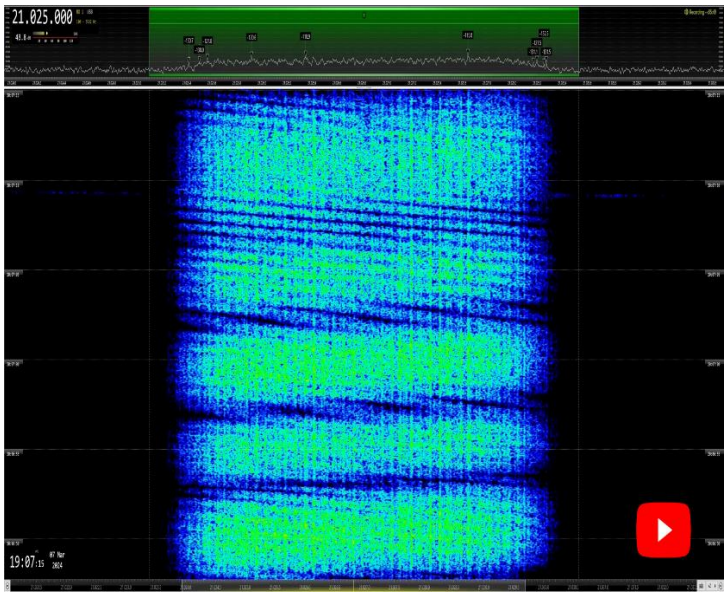
We also observed other MIL and GOV transmissions sent with other modes, as

- STANAG-4285
- CIS-12
- CIS-60 a.k.a RUS high data rate modem
- MIL-188-110A
- ISR navy hybrid modem
- DPRK-FSK 600 ARQ
- DPRK-PSK 1200 ARQ

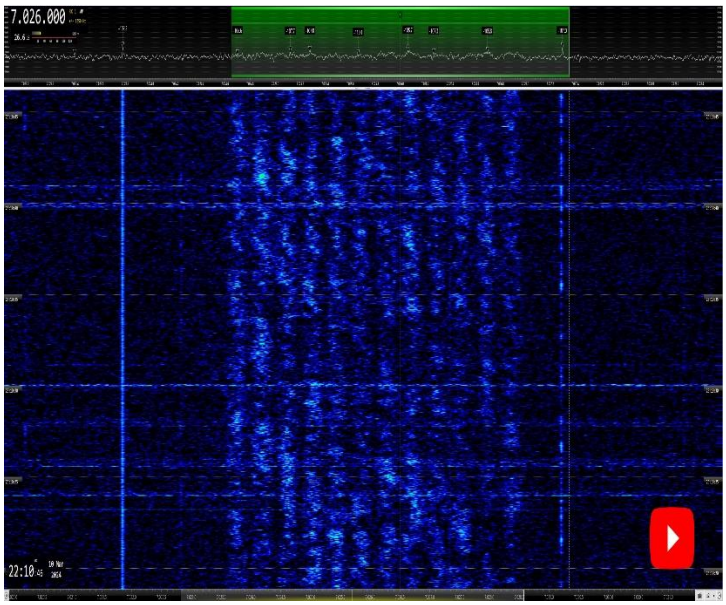
In this type of non-amateur transmissions being carried out the amateur bands we also include several jammer that are, regrettably, more and more frequent



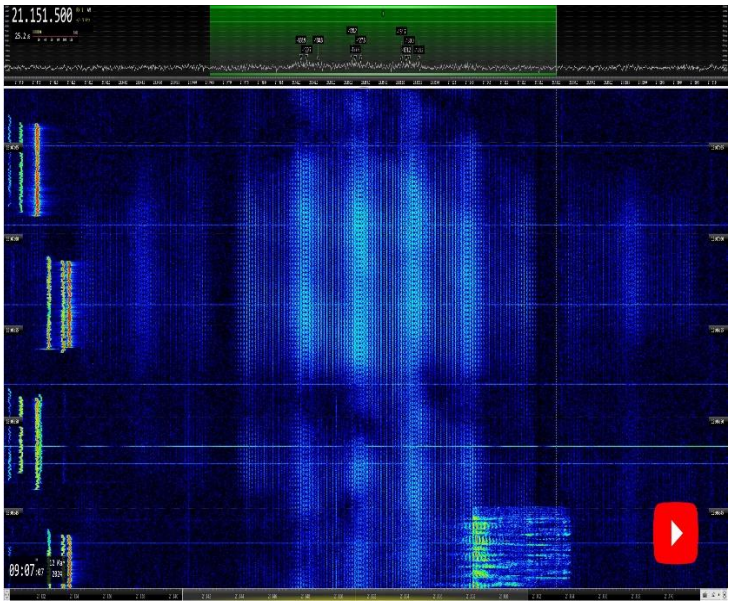
14001.5 kHz CF: Israeli navy hyrbid modem



21026.8 kHz CF: STANAG 4285



7026 kHz CF: CIS-12



21151.5 kHz CF: XXX. Jammer

Last but not least, many FM (F3E) transmissions were observed on the 10m band by unidentified female operators speaking in a Slavic language (short traffic), as well as pirate stations on this same band (AM, FM, SSB) and on 15 and 40m, most of them sent from Region 3 countries, sending SSB transmissions

- *Find other screenshots and videos about the transmissions received during March at the end of this Newsletter* -

Detailed reports of national coordinators

Abbreviations used (as per IARUMS definitions)

aka = also known as **| BC** = Broadcast | **Bd** = Baud | **BD** = Burst duration) | **BRI** = Burst repetition interval. **BW** = Bandwidth | **ca** = approximate | **CHN = PRC** = People´s Republic of China | **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 | **SH** = Shift (Hz) | **sps** = sweeps per second | **TDoA** = Time difference of arrival | **ui** = **unid** = unidentified.

DARC; Harald, DL9NDW

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7021.0	19:47	13	03			RADAR	40	10K0E	
7022.0	21:01	19	03	RUS		J7D	120	2K70E	
7026.0	20:58	16	03	RUS		J7D		2K70E	CIS-12. 12 Channels , often
7035.0	18:13	31	03			XXX		6K0E	unknown modulation type
7036.0	15:25	20	03			F1B	50	500H	Used real BW : ca 750 Hz , often
7043.0	18:04	31	03			XXX		8K0E	unknown digital sound or jammer
7055.0	20:37	04	03	RUS		J3E-L		2K80E	RUS/UKR radiowar
7058.0	20:51	18	03	RUS		RADAR	40	CA12K0E	-90dbm on Dipol here, often
7060.0	13:17	24	03			XXX		1K5	Strange noise, looks like STANAG, changes bandwidth and level, sometimes words in between , no ham identifications
7062.0	19:03	10	03			RADAR	40	CA12KE	
7065.0	22:50	28	03	RUS		RADAR	40	20K0E	3rd Party report from german ham station
7080.0	19:45	11	03			F1B	49.1	200H	Decodable with go2monitor, vd, vt
7085.0	21:14	16	03	RUS		RADAR	40	12K0E	-48dbm
7100.0	17:25	02	03			RADAR	40	10K0E	Overlayed by strong SSB
7105.0	19:28	18	03	CHN		RADAR	66.7	10K0E	Same as 7171 at same time
7135.0	17:22	02	03			RADAR	40	10K0E	
7137.0	17:34	17	03			N0N	100	200H	with some hum, 100hz, carrier and 2 sideband lines
7137.0	17:48	17	03			F1B	50	200H	cis-50-50-200
7156.5	20:41	10	03			XXX	85	3K0E	Jammer with nothing to Jam, some qsb , vd, vt
7169.0	19:13	10	03			RADAR	20	CA10KE	Very short time seen, maybe 5 seconds only
7169.0	21:15	16	03	RUS		RADAR	40	12K0E	-46 dbm
7171.0	19:24	18	03	CHN		RADAR	66.7	10K0E	Short pulses , humming sound, abt. one pulse / min
7183.0	20:27	10	03			RADAR	40	12K0E	
7195.0	20:52	18	03	RUS		RADAR	40	CA12K0E	Waterfall looks very unstable
10144.0	18:04	30	03			J3E-U		2K50E	Voice communication, East Asia Pirates
14005.0	14:04	27	03	RUS		J7D	120	2K70E	CIS-12. 3rd Party observation , LZ ham sent to Dl IM Team with mp4 proof
14026.0	00:10	07	03			J7D	120	2K70E	CIS-12
14145.0	19:55	17	03	CHN		RADAR	42	10K0E	OTHR , short bursts, 4 sec
14160.0	20:00	17	03			RADAR	42	10K0E	second frequency of previous posted Radar

DARC; Harald, DL9NDW

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14164.0	07:08	14	03			RADAR	40	12K0E	instable frequency
14170.0	20:01	17	03			RADAR	42	10K0E	3rd instance
14180.0	10:39	24	03			RADAR	40	20K0E	switched off 10.40 , just after seen
14182.0	17:49	24	03	RUS		RADAR	40	12K0E	
14186.0	19:27	09	03			RADAR	40	CA14K0E	
14192.0	12:14	07	03	RUS		F1B	50	250H	CIS-36-50-250hz , often
14196.0	07:11	14	03			RADAR	40	12K0E	
14205.0	13:25	24	03	RUS		RADAR	40	12K0E	
14240.0	16:04	08	03	RUS		RADAR	40	CA12K0E	Different Spectrum as seen before today, seems to switch something, changes strength (no fading)
14252.0	15:04	08	03			F1B	75	250H	g2monitor classifier, no decodes
14266.0	09:02	19	03			XXX		12K0E	harmonics and complex audio sprectrum
14290.0	06:18	18	03			RADAR	40	20K0E	
14292.0	14:53	17	03	RUS		RADAR	40	12K0E	-90dbm, S7 , winradio on sdr console, dipole ant
14335.0	08:17	19	03			RADAR	40	CA20KE	2 Radars side by side
14345.0	14:57	17	03	RUS		RADAR	40	12K0E	same as radar on 14262 same time
14350.0	06:19	18	03			RADAR	40	20K0E	10 khz into Band, very strong
18175.0	08:57	10	03			RADAR	50	20K0E	Splattering into 18mhz Ham Band, stopped at 9.00
21103.0	06:56	31	03			RADAR	40	10K0E	Strong fading
21105.0	08:25	28	03	RUS		RADAR	40	12K0E	Broad interference to 30K Bandwith used
21105.0	16:00	28	03			RADAR	50	CA16K0E	3 Radars in 15m Band same time
21107.0	06:42	16	03	RUS		F1B	50	250H	mostly idle, few senseless decodes made. Dissapeared 6:45UT
21120.0	18:16	30	03			RADAR	40	12K0E	not very strong, -120dbm, 10db over noise
21155.0	13:38	20	03			RADAR	10	CA10K0E	Short periods of 20 Seconds , every now and then. Same on 21415
21176.0	18:14	11	03			RADAR	40	CA10K0E	Faint here, still annoying
21185.0	08:10	15	03	G		RADAR	50	20K0E	3rd Party Observation, ÔTHR G (UK SBA; Cyprus)
21210.0	16:03	28	03	G		RADAR	50	20K0E	Cyprus , TDOA checked
21224.5	18:17	11	03	CHN		F1B		CA200H	Short sequences of 3-4 Sec, other station too faint, ca. 200hz
21235.0	16:01	28	03			RADAR	40	CA24K0E	very broad
21250.0	15:03	05	03			RADAR	50	200K0E	Extremely Strong
21260.0	15:23	23	03			RADAR	40	CA80K0E	Not very strong and changing frequency
21290.0	07:08	21	03			RADAR	50	20K0E	broad splatter and smearing over waterfall
21360.0	06:37	22	03			XXX		10H	Carrier , heard all over europe
21380.0	13:10	22	03			RADAR	50	20K0E	
21414.0	09:54	29	03			RADAR	60	14K0E	Unidentified, basic sound is 60hz. TDOA coarse East Turkey or Azerbayan
21430.0	11:10	01	03			RADAR	50	20K0E	Stopped 1117ut
21436.5	14:19	11	03	RUS		A1A	10		
24879.0	07:36	21	03			RADAR	40	CA10KE	Splattering wide into 12m Band up to 24900
24891.0	12:55	28	03	RUS		RADAR	40	12K0E	Instable , Oscillating , up to 24905
24892.0	10:42	29	03			RADAR	40	10K0E	Splattering far into 12m Band
24950.0	06:03	18	03			RADAR	40	20K0E	down to 24940 and splattering into Band

DARC; Harald, DL9NDW

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28135.0	12:15	10	03	RUS		F3E		CA10K0E	Female and male russian voice, not identified as hamradio qso , no callsigns
28135.0	13:53	30	03			RADAR	25	20K0E	
28154.0	15:13	02	03			RADAR	25	20K0E	
28155.0	15:13	03	03			RADAR	25	20K0E	not strong but not fading , nice structure on waterfall
28345.0	14:59	28	03	G		RADAR	50	20K0E	Most probably Cyprus. 3rd Party observation
28570.0	15:11	13	03			RADAR	50	CA20K0E	
28615.0	15:42	31	03	G		RADAR	25	20K0E	about 1 minute on air
28690.0	09:48	30	03			RADAR		20K0E	too noisy, switched of 09:52
28860.0	16:13	10	03	IRN		RADAR	150	CA45K0E	Alternating 150 and 313 sps bursts, qsb, often

IRTS; Michael EI3GYB

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7027	1735	21	3			PSK			Huge and persistent signals.
7050	1550	26	3	UKR/ RUS		LSB			Russian-Ukrainian radio war.Loud music. Shouting of slogans.
7055	1830	11	3	UKR/ RUS		LSB			Russian-Ukrainian radio war. Plenty of “Russki swinja”!
7081	1740	21	3			F1B			Persitent, strong.
7113	1055	24	3	UKR/ RUS		LSB			Russian-Ukrainian radio war. Loud and persistent.
14000	1730	11	3	E or MM		USB			Spanish fishermen. On and off for 2 hours. Medium signals. Also heard at other times on other days.
14005.75	1200	12	3			F1B			Strong and persistent. Heard on other days as well.
14174	1620	26	3			RADAR			Radar from 14174 to 14189 kHz. Medium but persistent signals.
14180	1830	25	3	CHN		RADAR			Chinese Foghorn form 14180 to 14190 kHz. Medium signals. Persistent.
14192	1550	4	3	RUS		F1B			Russian navy in Kaliningrad.Strong. Every single day during all hours of daylight.
14258.5	1325	21	3			USB			Male voice reading a long list of numbers in English. Eastern European accent.Non native speaker. Medium signal. Ends 1340z.
14263.5	830	21	3			PSK			Huge and persistent signals.
14320	1510	10	3	CHN		RADAR			Chinese Foghorn from 14320 to 14330 kHz. Short bursts. Medium signals.
18152	1510	13	3	G		RADAR			SBA Cyprus with radar from 18152 to 18192 kHz.Strong and persistent.Also heard on the 25th at 1650z.
18163	1305	22	3	G		RADAR			SBA on Cyprus. Radar from 18163 to 18183 kHz. Strong and persistent.
18168	845	14	3			USB			Female voice reading numbers: ” Fiver-Fiver-One. Obik. Attention. Nine-One...” Huge signal.Eastern European accent.
21000	1445	11	3	E or MM		USB			Spanish fishermen chatting. Low to medium signals. Heard often.
21150	1840	11	3	G		RADAR			SBA on Cyprus. Radar from 21150 to 21180

IRTS; Michael EI3GYB

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									kHz. Strong and persistent.
21292	1555	27	3	G		RADAR			SBA on Cyprus. Radar from 21292 to 21312 kHz.Huge and persistent.
21365	1300	22	3	G		RADAR			SBA on Cyprus. Radar from 21365 to 21395 kHz. Strong and persistent.
21380	1615	10	3	G		RADAR			SBA on Cyprus. Radar from 21380 to 21410 kHz. Strong and persistent.
21400	1450	10	3	G		RADAR			SBA on Cyprus. Radar from 21400 to 21430 kHz. Strong and persistent.
21438	1010	1	3	UKR		CW			RUS navy, Sevastopol. Daily with a medium to strong signal.
21440	1210	10	3			PSK			Strong and persistent.
24890	755	29	3			RADAR			Codar signals. Very weak- barely audible. In and out.
28260	1040	2	3	TJK		AM			Radio Free Asia with a harmonic. Often heard with a medium signal.
28320	840	14	3	G		RADAR			SBA on Cyprus. Radar from 28320 to 28345 kHz. Huge and persistent.
28330	1555	26	3			PSK			Medium to strong signal. On and off.
28555	1505	13	3	G		RADAR			SBA on Cyprus. Radar from 28555 to 28580 kHz. Strong and persistent.
28598	950	17	3	G		RADAR			SBA on Cyprus. Radar from 28598 to 28618 kHz. Huge and persistent.
28745	1545	26	3	G		RADAR			SBA on Cyprus. Radar from 28745 to 28765 kHz. Strong and persistent.
28800	1030	1	3	IRN		RADAR			Radar from 28800 to 28900 kHz. Medium to strong signals. Daily.
29000	1250	1	3			FM			South East Asian fishermen. Strong.
29100	1035	1	3			FM			Carrier. Strong, persistent. Almost daily.
29173	830	14	3	G		RADAR			SBA on Cyprus. Radar from 29173 to 29193 kHz. Persistent. Medium signal.
29325	945	17	3			FM			South East Asian fishermen. Strong signals.
29333	1410	28	3	G		RADAR			SBA on Cyprus. Radar from 29333 to 29353 kHz. Medium signal, persistent.
29370	1440	10	3	IRN		RADAR			Radar from 29370 to 29470 kHz. Strong and persistent.
29622	945	29	3	G		RADAR			SBA on Cyprus. Radar from 29622 to 29644 kHz. Strong and persistent.

PZK; SP3AMO, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7182.0	2057	10	03			RADAR		12K0E	S9+
14008.0	vt	vd	03			F1B		240H	S9++
14141.0	1635	10	03			RADAR		12K0E	S9+
14143.0	1118	21	03			RADAR		10K0E	5 sec burst
14155.0	1143	22	03			J3E-U		3K0E	S9+ songs in Russian political contents
14162.0	1000	01	03	RUS		CIS-12		2K70E	S9+ pilot 14163.3
14176.0	1635	10	03			RADAR		12K0E	S9+
14178.0	1140	25	03			RADAR		26K0E	S9
14205.0	1341	24	03			Radar	40	12K0E	
14221.0	0717	04	03			Radar	40	12K0E	

PZK; SP3AMO, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14223.0	1620	22	03			RADAR		10K0E	3 sec burst foghorn; also at 14279.0, 14337.0
14228.0	0915	06	03	RUS		CIS		2K70E	S9
14253.0	1410	29	03			F1B		200H	S9+
14261.0	1207	27	03			UI		3K50E	S9 like STANAG?
14302.0	1010	05	03	RUS		CIS		2K70E	S6
14302.0	1005	12	03	RUS		CIS-60		2K70E	S9
14302.0	1210	27	03	RUS		CIS-12		2K70E	S9
14308.0	0907	07	03			F1B		500H	S9++
14301.8	0902	12	03			PSK		2K70E	
14313.0	1225	22	03			UI		6K0E	At 14317,5 another emission about 2K0E wide
14320.0	1310	06	03			RADAR		10K0E	3 sec burst foghorn
18116.0	1508	01	03			RADAR		10K0E	10 sec.
18124.0	1315	25	03			RADAR		10K0E	3 sec burst foghorn
21113.0	0957	01	03			RADAR		10K0E	5 sec burst
21115.0	1845	07	03			PSK	150	10K0E	
21152.0	1600	25	03			UI		>20K0E	Jammer?
21175.0	0950	30	03			RADAR		10K0E	5 sec burst
21188.0	0847	07	03	CHN		RADAR		10K0E	3 sec burst foghorn and 21221.0
21199.0	1230	13	03	CHN		RADAR		10K0E	3 sec burst foghorn
21210.0	1520	28	03			RADAR		20K0E	S9 foghorn?
21225.0	1233	21	03	CHN		RADAR		10K0E	3 sec burst foghorn
21228.0	1148	27	03	CHN		RADAR		10K0E	3 sec burst foghorn
21264.0	1130	25	03	CHN		RADAR		10K0E	3 sec burst foghorn
21267.0	1015	18	03	CHN		RADAR		10K0E	3 sec burst foghorn
21310.0	1115	13	03	CHN		RADAR		10K0E	3 sec burst foghorn
21336.0	0937	10	03	CHN		RADAR		10K0E	3 sec burst foghorn
21338.0	0840	04	03	CHN		RADAR		10K0E	Continuous
21376.0	0845	02	03	CHN		RADAR		10K0E	3 sec burst foghorn and 21349.0
21395.0	1300	25	03			RADAR		20K0E	up to S9+30dB, looks like Cyprus
21420.0	0915	15	03			RADAR		10K0E	3 to 10 sec. Bursts
21430.0	vt	01	03			RADAR		20K0E	S9
21438.0	0904	12	03		RCV	A1A	20wpm		QTC
24893.0	1100	29	03			RADAR		14K0E	
24896.0	1140	27	03			RADAR		10K0E	Continuous
24904.0	1308	06	03			RADAR		14K0E	
24942.0	1050	22	03			RADAR		10K0E	3 sec burst weak signal
28125.0	0905	17	03			F3E		6K0E	In Russian female radio taxi?
28145.0	1040	23	03			RADAR		20K0E	S9+ looks like Cyprus
28205.0	1210	13	03			A3E		6K0E	In Spanish non-amateur talk
28256.0	1000	12	03			A3E		6K0E	In Spanish non-amateur talk
28310.0	0905	07	03			RADAR		20K0E	S9
28345.0	vt	vd	03			RADAR		20K0E	S7
28610.0	0950	17	03			RADAR		20K0E	Continuous
28610.0	vt	vd	03			RADAR		20K0E	S9
28615.0	1542	31	03			RADAR		20K0E	S9

PZK; SP3AMO, SP5GNI

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
28635.0	0845	07	03			RADAR		20K0E	S7
28650.0	1100	31	03			RADAR		20K0E	S9
28690.0	0845	30	03			RADAR		20K0E	S9+15dB, looks like Cyprus
28712.0	1100	23	03			UI		3K0E	S8 like STANAG?
28770.0	1318	15	03			RADAR		20K0E	S9++
28860.0	0742	11	03			Radar	150/300	46K0E	
29230.0	1005	17	03			F3E		6K0E	In Russian female radio taxi?
29335.0	1120	31	03			RADAR		20K0E	S5
29460.0	0746	11	03			Radar	25	20K0E	QSY 29465.0
29465.0	0745	11	03			Radar	25	20K0E	07:45 UTC QRT
29490.0	1000	20	03			RADAR		20K0E	S6
29500.0	0732	14	03			Radar	150/300	46K0E	

SRAL; Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7 MHz	2100-0400	1	3	RUS		RADAR	40 sps	13k0E	(WebSDR 28d)
7000.0	1330-1900	01 - 31	3	TWN		A3E		4k0E	Weak modulation, Sound of Hope?
7008.5	0630-1915	06 - 09	3	RUS		J7D	120	2k60E	
7018.0	0905-1115	*	3	RUS		J7D	120	2k60E	*) Days: 18. 27. 28.
7019.0	0545-1915	*	3	RUS		F1A/ N0N	15 wpm	200H	*) Days: 1.- 4. 20. 21.
7022.0	0745-1900	19 30	3	RUS		J7D	120	2k60E	
7024.0	1130-1315	12	3	RUS		F1B		200H	
7032.0	0450-1900	01 - 31	3	RUS		J3E-u		3k50	Non-stop Russian anthem / mx, spur on 7101.7 (QRP 20. - 31.)
7032.0	0000-2400	01 - 31	3	RUS		XXX		3k60E	2 jammers, 240 Hz & noise. Center fq 7033.8 kHz
7033.0	1310-1415/	21	3	RUS		F1B		250H	
7036.0	1500-1900	*	3	RUS		F1B		500H	*) Days: 4. 9. 20. 25. - 28.
7042.0	0635	25	3	RUS		J7D	120	2k60E	
7042.0	1430-1800	*	3	RUS		Jam/ XXX		2k5E	*) Days: 1. 28. 31.
7048.0	0440-1300	*	3	RUS		A1A		60E	*) Days: 1. 4. - 7. 11. - 22. 25. - 29. 5F, mostly key failures
7051.7	0530-1900	01	3	RUS		XXX		1k2E	TDL
7054.0	1245-1900/	*	3	RUS		F1B		200H	*) Days: 3. 5. - 10. 14. - 22. 25. - 30.
7057.0	1055-1855	14 17	2	RUS		J7D	120	2k60E	
7057.5	0450-1530	*	3	RUS	WISN etc	A1A		40H	*) Days: 2. 5. 7. - 10. 12. 14. 18. 19. 21. 25. - 29.
7066.0	0545-1900	*	3	RUS		F1A/ N0N	16wpm	200H	*) Days: 1. - 4. 25. 5BL

SRAL; Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7080.0	1745-1915	*	3	RUS		F1B/A	17wpm	200H	*) Days: 4. 6. 10. 11. 12. 19. 20. 21. 23. 29. 30. 5F
7101.5	0600-1600	*	3	RUS		XXX		3k3E	*) Days: 1. 5. - 9. 11. 13. 19. 22. 26. - 29.
7122.0	0745-1130	29	3	RUS		J7D	120	2k60E	
7137.0	1615-1930	*	3	RUS	RDL	F1A/B		200H	*) Days: 1. 4. 5. 10. 11. 12. 15. 16. 17.
7156.5	1330-1900	01-27	3	RUS		Jam/ XXX		9k0E	
7160.0	0640-0710	19	3	RUS	RBL88	A1A	14wpm	40H	
7192.0	0700-1700	*	3	RUS		J7D	120	2k60E	*) Days: 3. 4. 6. 10.
7196.0	1030-1340	*	3	RUS	WZYF etc	A1A		40H	*) Days: 5. 17. 31.
7200.0	1400-1428/	26 29	3	TWN		A3E		9k0	
10 MHz			3	G		RADAR	50sps	20k0	(WebSDR 1d)
10 MHz			3	RUS		RADAR	40sps	13k0E	(WebSDR 11d)
14 MHz	0545-1830	*	3	RUS		RADAR	40sps	13k0E	*) Days: 3. 4. 5. 8.14. 17. - 20. 24. 25. 30. (WebSDR 20d)
14 MHz	1130-1900	*	3	CHN		RADAR	50/67sps	10k0E	*) Days: 1. - 4. 6. - 11. 14. 16. - 22. 25. - 28. 'foghorn'
14000A	0550-1555	*	3			RADAR	120	4k50E	*) Days: 3. 5. 6. 30. 31. SuperDARN jumps + / - 20 kHz
14008.0	0520-1210	*	3	RUS		F1B		250H	*) Days: 3. 6. 7. 10. 11. 13. 14. 17. 18. 20. 29. 30. 31.
14013.0	1030-1405	26	3	RUS		J7D	120	2k60E	
14026.0	1020-1110/	07 13	3	RUS		J7D	120	2k60E	
14052.0	1250	31	3	RUS		J7D	120	2k60E	
14171.0	1110-1135	26 28	3	RUS		J7D	120	2k60E	
14192.0	0530-1900	01 - 31	3	RUS		F1B		200H	
14221.0	0500-0600	01 - 31	3	KAZ		F1B		200H	
14253.0	0605-1600	*	3	RUS		F1B		250H	*) Days: 4. 11. 12. 18. 22. 25. 29.
14302.0	0730-1010	12 15	3	RUS		W7D		3k7E	
14306.0	1045	23	3	RUS		J7D	120	2k6E	
18 MHz	0600-1700	*	3	G		RADAR	50/25 sps	20k0	*) Days: 6. 9. 10.15.28. 30. (WebSDR 8d)
18 MHz	0545-1525	*	3	RUS		RADAR	40 sps	13k0E	*) Days: 10. 11. 13. 14. 21. (WebSDR 17d)
21 MHz	0545-1700	*	3	G		RADAR	50/25 sps	20k0	*) Days: 1. 4. 6. 7. 10. 12. - 15. 17. 19. 21. 22. 25. 28. 29. (WebSDR 20d)
21 MHz	0500-1730	*	3	RUS		RADAR	40 sps	13k0E	*) Days: 6.12.14.15.16.17. 23. 28. (WebSDR 18d)
21 MHz	0550-1000	28	3	CHN		RADAR	50 sps	10k0	(WebSDR 11d)
21 MHz	0545-	01 -	3	CHN		RADAR	50/67sp	10k0E	'foghorn'

SRAL; Pekka, OH2BLU

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
	1700	31					s		
21000.0	0755-0815/	30	3			XXX		2k6E	See 21065 kHz
21065.0	1325-1430/	25 27	3			XXX		4k7E	
21125.0	0820-0900/	30	3			XXX		4k7E	See 21065 kHz
21151.5	0745-1715	*	3	RUS		XXX		2k5E	*) Days: 12. 26. 27. 28. 29.
21438.0	/0830-1730	01 - 31	3	RUS	RCV	A1A	16 - 20 wpm	40H	Navip etc. 23. key failure?
24 MHz	0630-1500	*	3	RUS		RADAR	40sps	13k0E	*) Days: 6. 13. 18. 28. 30. (WebSDR 12d)
24 MHz	0805-0930	23	3	I		CODAR	2 sps	200k0E	WERA
28 MHz	0500-1530	*	3	G		RADAR	12.5/ 25/50sps	20k0	*) Days: 3. 7. 9. 11. 15. 17. 18. 20. 21. 23. 24. 27.- 31. (WebSDR 22d)
28 MHz	0515-1615	*	3	IRN		RADAR	150/ 313	60k0E	*) Days: 3. 8. 11.14. 22. 27. 29. 31. (WebSDR 21d)
28 MHz			3	IRN		RADAR	310/ 870	80k0E	Not heard
28860.0	0600-1600	*	3	IRN		RADAR	150/ 313	60k0E	*) Days: 1.2. 3. 6. - 11. 13. - 18. (WebSDR 15d)
28 MHz	0700-1315	*	3	RUS	Taxi disp.	F3E		3k0E	*) Days: 1. 2. 3. 12. 15. 16. 17. 18. 20. 29. 31. 42 reports

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
6994.0	19:06	18	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 7003 kHz
6996.0	17:55	18	03	RUS		RADAR	40	12K0E	OTHR Contayner
7000.0	20:44	22	03	RUS		RADAR	40	12K0E	OTHR Contayner
7001.8	18:28	12	03			G1D	2400	2K40E	STANAG-4285
7002.0 USB	17:25	03	03		XYZ ABC	J7D	125	1K80E	MIL-188-141A ALE 2G
7002.0*	19:52	04	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7066 kHz CF. *2 simultaneous TX on 40m*
7002.0 USB	20:25	06	03			J7D	125	1K80E	MIL-188-141A ALE 2G
7005.0	18:53 vt*	20 vd*	03			XXX	VM**	VBW***	Wideband HF Hybrid Automatic Repeat Request (ARQ). L3Harris WHARQ. **Various BW. ***Various modulation types. *Also on 25/03, 1721 UTC
7005.0	18:54	20	03			J7D	125	1K80E	7005 kHz USB: MIL-188-141A ALE 2G
7008.5	12:19	12	03			J7D	120	2K70E	CIS-12
7015.0*	00:46	13	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7103 kHz CF. *2 simultaneous TX on 40m*
7017.4 USB	18:07	21	03			G1D	2400	2K40E	MIL-188-141B bursts
7018.0	15:42 vt*	05 vd*	03			XXX		2K40E	Unidentified digital bursts. *Also on 13/03, 1552 UTC
7018.0	13:26	28	03			J7D	120	2K70E	CIS-12
7018.9	07:52	01	03			N0N			Carrier from F1B system on 7019 kHz CF

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
	vt*	vd*							*Also on 02/03, 0711 UTC and 03/03, 0947 UTC
7019.0	08:56	01	03			F1B F1A	50	200H	CIS 36-50
7022.0	17:30	19	03	RUS		J7D	120	2K70E	CIS-12
7025.0	06:15	24	03			J3E-L		2K80E	UKR/RUS radiowar
7025.0	18:48	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
7026.0	18:00 vt*	07 vd*	03	RUS		J7D	120	2K70E	CIS-12. Long-lasting *Very often. 17 reports
7026.0	19:33	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
7032.0	19:15	01	03	RUS		RADAR	40	12K0E	OTHR Contayner
7032.0	19:51	30	03			J3E-U		3K30E	J3E-U. Russian Anthem, looped; with short pause after the song ends
7032.0 USB	19:56	31	03			XXX		3K30E	Group of carriers. Spacing = 240 Hz. Jammer?
7034.0	14:03	21	03			F1B	75	250H	
7035.0	17:57	07	03			J3E-L		2K80E	J3E-L. Audio loops. UKR/RUS radiowar
7036.0	19:09 vt*	05 vd*	03	RUS		F1B	50	500H	*Often. 8 reports
7038.0	22:25	27	03	RUS		RADAR	40	12K0E	OTHR Contayner
7038.3	18:49	29	03			XXX		CA3K0E	Unidentified digital bursts. BW ca 3K0E. Hopping
7042.0	14:45 vt*	04 vd*	03			XXX		CA10K0E	Jammer. *Also on 30/03, 2019 UTC and 31/03, 1954 UTC
7048.0	09:32	14	03			F1B		250H	
7051.7	07:14	01	03			PSK	800	1K20E	Tactical Data Link (TDL)
7054.0	15:44 vt*	05 vd*	03	RUS		F1B	50	200H	*Very often. 15 reports
7058.0	19:52 vt*	05 vd*	03	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 18/03, 2050 UTC and 29/03, 2117 UTC
7062.0	19:14 vt*	07 vd*	03	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 10/03, 1900 UTC
7063.0	19:47	06	03	RUS		RADAR	40	12K0E	OTHR Contayner
7064.0	20:40 vt*	11 vd*	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 21/03, 2018 UTC
7064.0	18:37	14	03	RUS		F1B	50	200H	
7065.0	21:39	28	03	RUS		RADAR	40	12K0E	OTHR Contayner
7065.9	07:26 vt*	01 vd*	03			N0N			Carrier from F1B system on 7066 kHz CF (CIS 36-50). *Also on 02/03, 0713 UTC and 03/03, 0949 UTC
7066.0	08:51	01	03			F1B	50	200H	CIS 36-50
7066.0	19:53 vt*	04 vd*	03	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 14/03, 1836 UTC
7080.0	18:52 vt*	01 vd*	03	RUS	RDL	F1B F1A	50	200H	CIS 36-50. *Almost daily. 24 reports
7085.0*	21:04	16	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7169 kHz CF. *2 simultaneous TX on 40m*
7086.0	00:10	11	03	RUS		RADAR	40	12K0E	OTHR Contayner
7088.5*	09:30	25	03			XXX			Images on waterfall; no amateur callsign. *Also on 7091.5 kHz CF
7089.0	17:30	03	03	CHN		RADAR	62.6	10K0E	OTHR short bursts

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7089.0	20:26	07	03	CHN		RADAR	50	10K0E	OTHR short bursts
7090.5	15:38	01	03			J7D	120	2K70E	CIS-12; with additional tone on 7088.5 kHz
7092.0	19:57	01	03	RUS		RADAR	40	12K0E	OTHR Contayner
7095.0 USB	20:13	10	03			J7D	125	1K80E	MIL-188-141A ALE 2G
7100.0	18:36	02	03			J3E-L		2K80E	J3E-L. UKR/RUS radiowar
7100.0	17:17	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
7102.0	00:10	11	03	RUS		RADAR	40	12K0E	OTHR Contayner
7103.0*	00:51	13	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7015 kHz CF
7105.0*	20:20	06	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7063 kHz CF and 7189 kHz CF. *3 simultaneous TX on 40m*
7105.0	19:22	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
7111.0	08:50	11	03			F1B	50	250H	
7113.9	20:33 vt*	11 vd*	03			N0N			Carrier from RUS F1B system on 7114 kHz CF. *Also on 17/03, 2033 UTC
7114.0	19:32 vt*	06 vd*	03	RUS		F1B	50	200H	*Also on 07, 11, 13 and 17/03; vt
7116.0	07:36	09	03			J7D	120	2K70E	CIS-12
7117.0*	21:16	21	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7064 kHz CF. *2 simultaneous TX on 40m*
7118.0*	19:54	05	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7058 kHz CF. *2 simultaneous TX on 40m*
7119.0	19:34 vt*	04 vd*	03			J7D	120	2K70E	CIS-12 with additional tone on 7117 kHz *Also on 05/03, 1647 UTC
7120.0 USB	20:37	17	03			J7D	125	1K80E	MIL-188-141A ALE 2G
7122.0	17:20	05	03	RUS		F1B	75	250H	
7123.0 LSB	19:35 vt*	04 vd*	03			G7D	60	2K50E	CHN-30 *Also on 06/03, 1925 UTC
7124.0	20:52	09	03	RUS		RADAR	40	12K0E	OTHR Contayner
7126.0	19:50	21	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
7134.0	20:31	17	03	RUS		F1B	50	200H	
7136.9	18:03	16	03			N0N			Carrier from RUS F1B sys on 7139 kHz CF
7137.0	16:08 vt*	05 vd*	03	RUS		F1B	50	200H	*Also on 07, 10, 12, 16 and 22/03; vt
7141.0 LSB	19:36 vt*	04 vd*	03			G7D	60	2K50E	7141 kHz LSB: CHN-30 *Also on 05/03, 1914 UTC; 14/03, 2001 UTC, and 15/03, 2055 UTC
7145.0	19:32	21	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
7150.0	20:02	14	03			J7D	125	1K80E	7150 kHz USB: MIL-188-141A ALE 2G
7155.0	19:21	06	03			G7D	75	2K50E	7155 kHz LSB: CHN-30
7156.5	15:42 vt*	01 vd*	03			XXX		CA3K0E	Jammer *Very often. 14 reports
7169.0	21:02	16	03	RUS		RADAR	40	12K0E	OTHR Contayner
7169.0	17:18	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
7171.0	19:19	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
7171.0 LSB	18:20	24	03			G7D	60	2K40E	7171 kHz LSB: CHN-30. *Also on 25/03, 1716 UTC and 26/03, 1655 UTC
7174.0	20:15	06	03			J7D	120	6K60E	CIS-12 DSB
7176.0	20:08	06	03			J7D	120	2K70E	CIS-12; with additional tone on 7174 kHz

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7177.0	20:58	11	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7192 kHz CF and on 7064 kHz CF. 3 simultaneous TX on 40m
7179.0	19:17 vt*	29 vd*	03			F1B	75	200H	*Also on 30/03, 0746 UTC
7182.0	21:05	10	03	RUS		RADAR	40	12K0E	OTHR Contayner
7186.0	07:12	04	03			J7D	120	2K70E	CIS-12. With additional tone on 7184 kHz
7187.0	19:30	01	03	RUS		RADAR	40	12K0E	OTHR Contayner
7189.0*	20:00	06	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7063 kHz CF. *2 simultaneous TX on 40m*
7192.0	13:43	04	03			J7D	120	2K70E	CIS-12
7192.0*	20:07	05	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7058 kHz CF and on 7118 kHz CF. *3 simultaneous TX on 40m*
7192.0	07:46 vt*	06 vd*	03			J7D	120	2K70E	CIS-12 *Also on 10/03, 0729 UTC
7192.0	20:59	11	03	RUS		RADAR	40	12K0E	OTHR Contayner
7195.0*	20:51	18	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 7058 kHz CF. *2 simultaneous TX on 40m*
7196.0	20:27	07	03	RUS		RADAR	40	12K0E	OTHR Contayner
7197.0 USB	19:52	28	03			J7D	125	1K80E	MIL-188-141A ALE 2G
7198.0 LSB	19:48	28	03			G7D	60	2K50E	CHN-30
10124.0	19:33 vt*	01 vd*	03	AUS		RADAR	7	10K0E	OTHR JORN bursts; with short intro tone *Often. 5 reports
10124.0	19:37	21	03	AUS		RADAR	7.2	12K0E	OTHR JORN bursts; with short intro tone
10126.0	17:08	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
10148.0	19:47 vt*	16 vd*	03	AUS		RADAR	7	10K0E	OTHR JORN bursts, with short intro tone *Also on 24/03, 1719 UTC 28/03, 2027 UTC
10150.0	19:58	01	03	AUS		RADAR	7	10K0E	OTHR JORN bursts; with short intro tone
10150.0	19:37 vt*	21 vd*	03	AUS		RADAR	7.2	12K0E	OTHR JORN bursts; with short intro tone. *Also on 22/03, 2103 UTC
10151.0	21:33	11	03	RUS		RADAR	40	12K0E	OTHR Contayner
14000.0	09:56 vt*	03 vd*	03			RADAR		CA5K0E	SuperDARN bursts *Also on 05, 07, 12 and 14/03; vt
14001.5	13:03 vt*	10 vd*	03				2400	2K40E	ISR navy hybrid modem bursts. *Also on 13/03, 0640 UTC and 17/03, 0727 UTC
14001.8	14:20 vt*	25 vd*	03			XXX	2400	2K40E	Unidentified digital bursts *Also on 27/03, 0852 UTC
14005.0*	08:07 vt**	01 vd**	03			XXX		CA3K40E	Unidentified signal. BD = 4 sec. BRI = 3 sec. *Simultaneously on on 14258.5 kHz CF. **Daily since 23/02 until 11/03
14005.0	09:58 vt*	03 vd*	03			RADAR		CA5K0E	SuperDARN bursts. *Also on 08/03, 0840 UTC and 12/03, 0825 UTC
14005.0	08:51	27	03			J7D	120	2K70E	CIS-12
14007.9	07:23	17	03	RUS		N0N			Carrier. From RUS F1B system on 14008 kHz CF
14008.0	09:37 vt*	03 vd*	03	RUS		F1B	50	250H	*Very often. 12 reports
14010.0	08:07	07	03			RADAR		CA5K0E	SuperDARN bursts
14020.0	09:44 vt*	03 vd*	03			RADAR		CA5K0E	SuperDARN bursts *Also on 08/03, 0841 UTC
14025.0	08:09 vt*	07 vd*	03			RADAR		CA5K0E	SuperDARN bursts *Also on 08/03, 0850 UTC

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14026.0	08:57 vt*	04 vd*	03	RUS		J7D	120	2K70E	CIS-12. *Also on 07/03, 1045 UTC and 13/03, 1005 UTC
14041.0	12:11	25	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14045.0	14:02	10	03	CHN		RADAR	50	10K0E	OTHR short bursts
14046.0	07:53	02	03			J7D	120	2K70E	CIS-12. Idle
14055.0	10:15	31	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G
14073.9*	08:29	14	03			XXX A1N			XXX, like fast dots. *Simultaneously on 21073.8 kHz, 21209.8 kHz and on 24914.76 kHz
14095.0	14:04	10	03	CHN		RADAR	50	10K0E	OTHR short bursts
14096.0	16:17	26	03	RUS		RADAR	40	12K0E	OTHR Contayner
14108.0	08:03	20	03	RUS		F1B	50	250H	
14108.0	16:56	22	03	CHN		RADAR	50	10K0E	OTHR short bursts
14109.0	13:50	24	03	CHN		RADAR	50	10K0E	OTHR short bursts
14110.0	18:06	19	03			RADAR		CA90K0E	CODAR-like radar
14118.9	07:11	04	03			N0N			Carrier
14122.0	18:15	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
14123.0	16:03	05	03	RUS		RADAR	40	12K0E	OTHR Contayner
14124.0	16:57	08	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
14131.5	17:50 vt*	19 vd*	03			XXX		CA5K0E	Unidentified continuous signal. 100 Hz tone, FM modulated. Long-lasting. *Daily since 19/03
14134.0	18:36	07	03	CHN		RADAR	50	10K0E	OTHR short bursts
14148.5	08:03	30	03			F1B	600	600H	DPRK-FSK 600 ARQ
14153.0 USB	11:04	17	03		BC5 CD5	J7D	125	1K80E	MIL-188-141A ALE 2G
14162.0 USB	12:28	12	03			J7D	125	1K80E	MIL-188-141A ALE 2G
14162.0	08:24	17	03			J7D	120	2K70E	CIS-12
14163.0	07:51	14	03	RUS		RADAR	40	12K0E	OTHR Contayner
14169.0	08:36	18	03			F1B	50	200H	
14170.0	17:21	08	03			J3E-U		2K80E	UKR/RUS radiowar
14171.0	08:57 vt*	26 vd*	03			J7D	120	2K70E	CIS-12 *Also on 27/03, 0919 UTC
14177.0	19:12	27	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14180.0	14:14	06	03	RUS		RADAR	40	12K0E	OTHR Contayner
14181.0	09:58	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
14183.0*	16:18	26	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 14096 kHz CF. *2 simultaneous TX on 20m*
14184.0	07:05	04	03	RUS		RADAR	40	12K0E	OTHR Contayner
14185.0	16:00	27	03	RUS		RADAR	40	12K0E	OTHR Contayner
14190.0*	10:00	24	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 14181 kHz CF. *2 simultaneous TX on 20m*
14192.0	06:52 vt*	01 vd*	03	RUS		F1B	50	250H	Changed 200 Hz usual shifty to 250 Hz on March. *Daily
14196.0	07:51	14	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 14163 kHz CF. 2 simultaneous TX on 20m
14198.0	12:15 vt*	05 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Very Often. 15 reports
14198.5	07:19	02	03			G1D		1K20E	DPRK-PSK 1200 ARQ

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
14202.7	15:55	05	03			XXX	2400	CA2K80E	XXX. Unidentified bursts
14205.0	13:04	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
14215.0	12:10	02	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14217.0	15:12	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14218.0	17:26	11	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14219.0	14:56	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14220.0 USB	07:35	04	03		551	J7D	125	1K80E	MIL-188-141A ALE
14220.5	07:37 vt*	04 vd*	03			F1B	600	600H	DPRK-FSK 600 ARQ. *Also on 09, 11, 17, 19, 21 26 and 31/10
14221.0	21:10 vt*	16 vd*	03	KAZ		F1B	50	200H	*Also on 17, 18, 19, 22, 28 and 31/10
14222.0	07:08	04	03	RUS		RADAR	40	12K0E	OTHR Contayner
14228.0	09:07	06	03			J7D	120	2K70E	CIS-12
14228.5	07:52 vt*	02 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Also on 04/03, 0655 UTC
14231.0	14:31	08	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14234.0	13:59	21	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14236.0	17:18	02	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14240.0	16:55	08	03	RUS		RADAR	40	12K0E	OTHR Contayner
14243.0	16:54	27	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14248.5	08:18	26	03			F1D	600	600H	DPRK-FSK 600 ARQ
14250.0	09:05 vt*	07 vd*	03	RUS		F1B	50	250H	*Also on 10/03, 0732 UTC
14253.0	06:52 vt*	04 vd*	03	RUS		F1B	75	250H	*Also on 11/03, 0640 UTC
14256.0	08:23	21	03			J7D	120	2K70E	CIS-12
14258.5*	08:15 vt**	01 vd**	03			XXX		CA1K90E	Unidentified bursts. BD = 4 sec. BRI = 3 sec. *Simultaneously on 14005 kHz CF. ** Daily since 23 February until 11 March
14260.0	08:49	19	03	RUS		XXX		12K0E	Bursts with short digital intro. On previous month, observed with OFDM 256 tones
14261.0	12:24	13	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14266.0	08:50	19	03	RUS		XXX		12K0E	Bursts with short digital intro. Observed on previous months with OFDM 256 tones
14270.0	15:56	20	03	RUS		RADAR	40	12K0E	OTHR Contayner
14283.0	12:32	12	03	CHN		RADAR	50	10K0E	OTHR short bursts
14288.0	16:00	05	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
14289.0	12:30	12	03	CHN		RADAR	50	10K0E	OTHR short bursts
14290.0	17:25	02	03			A3E		10K0E	A3E. BC. Unid BC st. Arabic language
14292.0	12:33	12	03	CHN		RADAR	50	10K0E	OTHR short bursts
14292.0*	14:17	17	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 14345 kHz CF. *2 simultaneous TX on 20m*
14292.0*	06:34	18	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 14345 kHz CF. *2 simultaneous TX on 20m*
14295.0	15:14	18	03	CHN		RADAR	66.7	1K0E	OTHR short bursts
14298.5	07:37 vt*	01 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ *Very often. 19 reports
14298.5	07:31	10	03			G1D	1200	1K20E	DPRK-PSK 1200 ARQ
14300.0	07:33	12	03			J3E-U		3K20E	Non-amateur comms after CIS-60 TX on 14301.9 kHz CF. Unid sts, male voices.

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									Slavic language
14301.0	15:15	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14301.0	13:52	24	03	CHN		RADAR	50	10K0E	OTHR short bursts
14301.9	07:30	12	03			W7D	40	2K80E	OFDM. CIS-60
14309.0	12:34	16	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14312.0	14:45	09	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14313.0	17:21 vt*	02 vd*	03			XXX		CA5K0E	Jammer. Harmonic of the jammer on 7156.5 kHz CF. *Often. 7 reports
14314.0	14:21	25	03	CHN		RADAR	50	10K0E	OTHR short bursts
14317.0	18:37	07	03	CHN		RADAR	50	10K0E	OTHR short bursts
14318.0	20:23	28	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14318.5	12:31	18	03			F1D	600	600H	DPRK-FSK 600 ARQ
14319.0	15:02	11	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
14320.0	13:10	06	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14322.0	12:08	02	03	CHN		RADAR	50	10K0E	OTHR short bursts
14322.0	12:13	25	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14323.0	13:45	11	03	CHN		RADAR	50	10K0E	OTHR short bursts
14325.0	17:28	11	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14326.0	11:53	04	03	RUS		RADAR	40	12K0E	OTHR Contayner
14327.0	14:42	04	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14331.0	14:22	25	03	CHN		RADAR	50	10K0E	OTHR short bursts
14335.0	06:38	19	03	RUS		RADAR	40	12K0E	OTHR Contayner
14336.0	15:44	01	03	RUS		RADAR	40	12K0E	OTHR Contayner
14337.0	19:17	18	03	CHN		RADAR	50	10K0E	OTHR short bursts
14338.0	14:04	19	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
14340.0	15:30	01	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
14341.0	18:17	19	03	CHN		RADAR	50	10K0E	OTHR short bursts
14342.0	12:35 vt*	16 vd*	03	CHN		RADAR	50	10K0E	OTHR short bursts *Also on 20/03, 1629 UTC
14342.0	20:15	22	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
14345.0	14:17	17	03	RUS		RADAR	40	12K0E	OTHR Contayner
14345.0	06:34	18	03	RUS		RADAR	40	12K0E	OTHR Contayner
14359.0	15:36	30	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 14341 kHz
14361.0	08:13	26	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 14345 kHz
18107.0	06:53 vt*	01 vd*	03	RUS	RDL	F1B F1A	50	200H	CIS 36-50. F1A ID: “RDL” *Daily
18130.0	13:47	24	03	RUS		RADAR	40	12K0E	OTHR Contayner
18137.0	18:08	20	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
18140.0	16:56	13	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
18140.5 USB	08:58	22	03			G7D	75	2K40E	CHN 4+4
18143.0	15:49	05	03	CHN		RADAR	50	10K0E	OTHR short bursts
18144.0	13:48	24	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
18164.0	15:25	20	03	CHN		RADAR	50	10K0E	OTHR short bursts
18166.0	13:13	06	03	CHN		RADAR	50	10K0E	OTHR short bursts
18166.0	12:24	12	03	RUS		RADAR	40	12K0E	OTHR Contayer
18167.0	07:28	01	03	RUS		RADAR	40	12K0E	OTHR Contayner
18169.0	14:43	13	03	RUS		RADAR	40	12K0E	OTHR Contayner

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
18170.0	18:23	19	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
18173.0	16:55	25	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 18164 kHz
18175.0	08:46 vt*	10 vd*	03	G		RADAR	50	20K0	OTHR. UK SBA, Cyprus *Also on 30/03, 1041 UTC
21000.0	08:08	11	03			J3E-U		2K40E	Unid sts talking. Male and female voices. Unid language
21000.0	06:43 vt*	13 vd*	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus *Also on 18/03, 0809 UTC
21000.0	08:07	30	03			XXX		3K60E	Unidentified digital signal with center carrier. 0815 UTC, QSY to 21125 kHz CF
21008.0	07:38	01	03			F1D	600	600H	DPRK-FSK 600 ARQ
21010.0	07:08	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21015.0 USB	07:16 vt*	09 vd*	03		BC5 DB5	J7D	125	1K80E	21015 kHz USB: MIL-188-141A ALE 2G *Also on 15, 20, 21, 22 and 28/03; vt
21025.0	18:41	07	03			G1D	2400	2K40E	21025 kHz USB. STANAG 4285. Long-lasting
21025.0 USB	07:19	31	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G
21055.0	06:48	18	03			F1B		900H	
21058.3	08:33	01	03			F1B	600	600H	DPRK-FSK 600 ARQ
21065.0	06:41 vt*	02 vd*	03			XXX		VBW**	Unidentified signal with center carrier. (AM or DSB). **Bandwidth and signal changes occur during the transmission. Long-lasting. *Also on 13/03, 0716 UTC and 25/03, 1233 UTC
21073.8	08:34	14	03			A1N			Continuous fast dots
21075.0 USB	07:42 vt*	21 vd*	03		BC5 DB5	G1D	125	1K80E	MIL-188-141A ALE 2G *Also on 22/03, 0830 UTC
21078.5	06:40	02	03			F1D	600	600	DPRK-FSK 600 ARQ
21086.0 USB	08:35 vt*	07 vd*	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G. *Also on 12, 13, 15, 18, 19, 20 and 22/03; vt. Often
21086.0	07:27	12	03			J7D	125	1K80E	21086 kHz USB: MIL-188-141A ALE 2G
21103.0	08:28	01	03			F1D	600	600H	DPRK-FSK 600 ARQ
21105.0	07:47	28	03	RUS		RADAR	40	12K0E	OTHR Contayner
21105.0	06:45	31	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 21162 kHz CF. *2 simultaneous TX on 15m*
21107.0 USB	06:48	11	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G *Also on 12, 15, 18 and 21/03; vt. Often
21108.5	07:12 vt*	06 vd*	03			F1D	600	600H	DPRK-FSK 600 ARQ. *Also on 09, 13, 15, 19, 20, 21 and 28/03. Vt. Often
21113.0	09:05 vt*	05 vd*	03			F1B	50	200H	*Very often. 16 reports
21115.0	07:45	15	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21118.0	08:01	14	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21120.0	08:27	20	03			XXX		CA5K0E	XXX. Jammer
21126.0 USB	06:51 vt*	11 vd*	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G. *Also on 12/03, 0801 UTC and 18/03, 0754 UTC
21128.0	07:33	17	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21130.0	10:27	06	03	RUS		RADAR	40	12K0E	OTHR Contayner
21145.0 USB	07:48 vt*	01 vd*	03	MRC	P1 P2 …	J7D	125	1K80E	MIL-188-141A ALE 2G. *Also on 05/03, 1642 UTC and 12/03, 0802 UTC

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21150.0	06:29	19	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21150.0 USB	07:22	28	03			G1D	2400	2K40E	MIL-188-110A
21151.5	16:18 vt*	01 vd*	03			XXX		CA10K0E	Jammer. *Also on 08, 12, 13, 26 and 27/03. Vt.
21156.0	09:30	03	03	CHN		RADAR	50	10K0E	OTHR short bursts
21159.0*	07:17	19	03	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 21411 kHz CF. *2 simultaneous TX on 15m*
21160.0	09:03 vt*	09 vd*	03	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 14/03, 0914 UTC
21162.0	06:45	31	03	RUS		RADAR	40	12K0E	OTHR Contayner
21164.5	16:19	13	03			XXX		CA3K40E	Same unidentified bursts as heard on 14005.5 kHz CF and 14258 kHz CF since 23 February. BRI ca 3 sec. BD ca 3 sec
21176.0 USB	07:41	31	03		BC5 DB5	J7D	125	2K80E	MIL-188-141A ALE 2G
21179.0	09:28	05	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21179.0	12:07	25	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21180.0	08:57	20	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21185.0*	07:57	15	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus. *Also on 21115 kHz CF. *2 simultaneous TX on 15m*
21188.0	08:33	07	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21207.0	07:47	15	03	CHN		RADAR	50	10K0E	OTHR short bursts
21209.8	08:29	14	03			A1N			Continuous fast dots
21210.0	15:23	28	03			RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21216.0 USB	07:19	09	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G + ROBUST
21225.0 USB	09:13	22	03			G1D	2400	2K40E	MIL-188-1110A
21241.0	09:10	24	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21245.0	08:26	08	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21281.0	12:21	02	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21285.0 USB	09:32 vt*	05 vd*	03			G7D	75	2K40E	CHN 4+4 *Also on 26/03, 0901 UTC
21285.0 USB	09:16	06	03			G1D	2400	2K40E	MIL-188-110A
21285.0	06:27	20	03	CHN		RADAR	50	10K0E	OTHR short bursts
21286.0	06:46	19	03	CHN		RADAR	10	160K0E	Wideband OTHR. Continuous TX
21290.0	06:58	21	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21301.0	10:17	03	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21305.0	16:03	27	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
21310.0	06:41	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21313.0	07:00	13	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21314.0	07:57	14	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21315.0	09:08	18	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21325.0	09:30	03	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21325.0	07:52 vt*	07 vd*	03	CHN		RADAR	50	10K0E	OTHR short bursts *Also on 23/03, 0842 UTC
21325.0	09:52	11	03	G		RADAR	50	20K0E	OTHR. UK SBA; Cyprus
21328.0	06:41	18	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21333.0	07:49	15	03	CHN		RADAR	50	10K0E	OTHR short bursts

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21336.0	07:00 vt*	01 vd*	03	CHN		RADAR	66.7	10K0E	OTHR short bursts *Also on10/03, 0722 UTC
21338.0	06:46	04	03	CHN		RADAR	50	10K0E	OTHR. Continuous TX
21339.0	06:59	06	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21340.0	10:18	03	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21340.0	08:48	27	03	CHN		RADAR	50	10K0E	OTHR short bursts
21342.0	06:46	11	03	CHN		RADAR	50	10K0E	OTHR short bursts
21345.0	07:51	11	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21345.0 USB	08:14 vt*	11 vd*	03			G1D	2400	2K40E	MIL-188-110A. *Also on 18/03, 0738 UTC and 21/03, 0929 UTC
21345.0	11:21	14	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21346.5 USB	08:30 vt*	09 vd*	03			G7D	75	2K40E	CHN 4+4. *Also on 10/03, 0838 UTC and 17/03, 0821 UTC
21348.0	08:24	26	03	CHN		RADAR	10	160K0E	Wideband OTHR. BD ca 60 s. BRI ca 60 s
21349.0	06:45	02	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21351.0	09:33	16	03	RUS		RADAR	40	12K0E	OTHR Contayner
21353.0	08:55	08	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21355.0	12:37	19	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21357.0	06:58	06	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21358.0	06:28	24	03	CHN		RADAR	50	10K0E	OTHR. Continuous TX
21366.0	10:00	06	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21368.0	07:15	09	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21371.0	06:48	04	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21376.0	08:46	05	03	CHN		RADAR	50	10K0E	OTHR short bursts
21376.0*	17:08	21	03	RUS		RADAR	40	12K0E	OTHR Contayner. *Also on 21425 kHz CF. *2 simultaneous TX on 15m*
21376.0	09:14	24	03	CHN		RADAR	50	10K0E	OTHR short bursts
21378.0	07:57	14	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21378.0	07:01	21	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21380.0	08:00 vt*	01 vd*	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus *Also on 22/03, 1416 UTC
21384.0	07:30	09	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21388.0	06:57	11	03	RUS		RADAR	40	12K0E	OTHR Contayner
21394.0	08:44	17	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21395.0 USB	07:36 vt*	02 vd*	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE *Also on 14/03, 0756 UTC
21395.0 USB	07:35	12	03		BC5 DB5	J7D	125	1K80E	MIL-188-141A ALE 2G + ROBUST
21395.0	12:01	25	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21396.0	06:25	20	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21399.0	08:44	17	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21402.0	08:27	04	03			XXX		CA15K0E	Same signal as the daily XXX 21414 kHz CF
21407.0	14:29	05	03	G		RADAR	50	20K0E	OTHR. UK SBA. Cyprus
21409.0	16:52	21	03	RUS		RADAR	40	12K0E	OTHR Contayner
21410.0	17:43	12	03	RUS		RADAR	40	12K0E	OTHR Contayner
21411.0	07:18	19	03	RUS		RADAR	40	12K0E	OTHR Contayner
21414.0	07:31 vt*	01 vd*	03			XXX		CA14K0E	Unidentified continuous signal. Long-lasting. *Daily since February 2024
21414.0	10:18	03	03	CHN		RADAR	41.7	10K0E	OTHR short bursts

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
21414.0	08:30	24	03			F1B		400H	F1B, harmonic of F1B system on 10712 kHz CF (Shift = 200 Hz)
21414.5 USB	09:19 vt*	09 vd*	03			G7D	75	2K40E	USB: CHN 4+4. *Also on 10/03, 0903 UTC and 24/03, 0912 UTC
21415.0	06:46	02	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21415.0	12:57	10	03	G		RADAR	25	50K0E	OTHR. UK SBA, Cyprus
21415.0	15:13	20	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21420.0	07:44	17	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
21422.0	07:03	17	03	RUS		RADAR	40	12K0E	OTHR Contayner
21425.0	17:09	21	03	REU		RADAR	40	12K0E	OTHR Contayner
21426.0 USB	09:31	16	03			J7D	125	1K80E	MIL-188-141A ALE 2G
21427.0	07:20	19	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
21430.0	11:11	01	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
21434.0	09:08	08	03	CHN		RADAR	50	10K0E	OTHR short bursts
21438.0	08:30 vt*	01 vd*	03	RUS	RCV	A1A			RUS navy QTC *Almost daily. 26 reports
24883.0	09:21	18	03	RUS		RADAR	40	12K0E	OTHR Contayner. Splatter to 24892 kHz
24889.0	08:48 vt*	23 vd*	03	RUS		RADAR	40	12K0E	OTHR Contayner *Also on 30/03, 0735 UTC
24891.0	13:23	28	03	RUS		RADAR	40	12K0E	OTHR Contayner
24900.0	07:00	11	03	CHN		RADAR	41.7	10K0E	OTHR short bursts
24901.0	06:44	28	03	RUS		RADAR	40	12K0E	OTHR Contayner
24903.0	07:38	06	03	RUS		RADAR	40	12K0E	OTHR Contayner
24906.0	11:19	03	03	RUS		RADAR	40	12K0E	OTHR Contayner
24914.8*	08:35	14	03			XXX A1N			Continuous fast dots simultaneously on 140739 kHz, 21073.8 kHz and 21209.8 kHz
24941.0	07:08	01	03	CHN		RADAR	50	10K0E	OTHR short bursts
24943.0	09:25	24	03	CHN		RADAR	50	10K0E	OTHR short bursts
24950.0	06:47	13	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
24952.0	07:17	15	03	CHN		RADAR	50	10K0E	OTHR short bursts
24964.0	06:45	12	03	CHN		RADAR	50	10K0E	OTHR short bursts
24965.0	08:46	23	03	CHN		RADAR	40	10K0E	OTHR short bursts
24968.0	07:34	01	03	CHN		RADAR	50	10K0E	OTHR short bursts
24968.0	07:07	13	03	CHN		RADAR	66.7	10K0E	OTHR short bursts
24974.0	07:10	11	03	CHN		RADAR	42	10K0E	OTHR short bursts
24978.0	07:05	13	03	CHN		RADAR	50	10K0E	OTHR short bursts
25000.0	08:46 vt*	14 vd*	03			RADAR	2	200K0E	CODAR-like radar *Daily since 14/03
28105.0	07:43 vt*	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28135.0	13:48	30	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28145.0	08:36	23	03	G		RADAR	200	25	OTHR. UK SBA, Cyprus
28155.0	07:41 vt*	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28155.0	10:20	03	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28192.0	13:58 vt*	22 vd*	03			XXX	2000	CA5K0E	Unknown AM continuous signal, with central carrier. Bandwidth and signal changes occur during the transmission. Observed this month and on Feb 2024 on

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
									21000, 21065 kHz CF and 21125 kHz CF. *Also on 24/03, 1341 UTC
28195.0	07:42 vt*	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28215.0	07:46 vt	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28245.0	07:42 vt*	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28255.0	07:45 vt*	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28260.0	10:21 vt*	01 vd*	03	TJK		A3E		10K0E	A3E. BC. Harmonic from Radio Free Asia (TJK) on 9420 kHz CF. Daily from 1000 UTC to 1100 UTC
28265.0	07:41 vt*	01 vd*	03			F3E			Non-amateur comms. Female voice. Slavic language. Short traffic. *Very often
28310.0	07:46	07	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
28330.0	07:07	17	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
28345.0	13:31	20	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28355.0	08:01	21	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
28385.0	06:52	17	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
28400.0	08:43	24	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. Hopping
28465.0	08:33	04	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28470.0	14:32	21	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28490.0	06:57	28	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28500.0	06:44	04	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts
28605.0*	09:45	23	03	G		RADAR	25	20K0E	OTHR: UK SBA, Cyprus. *Also on 28145 kHz CF. *2 simultaneous TX on 10m*
28610.0	08:33 vt*	11 vd*	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus *Also on 25/03, 1414 UTC
28610.0	09:38	17	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
28615.0	08:37	11	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28635.0*	07:59	07	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cypurs. *Also on 28310 kHz CF. *2 simultaneous TX on 10m*
28650.0*	11:04	31	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus. *Also on 29335 kHz CF. *2 simultaneous TX on 10m*
28670.0	08:25	30	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28700.0	06:42	06	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus
28700.0	14:00	19	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28750.0	10:22	03	03	IRN		RADAR	150	45K0E	OTHR. Alternating 150 and 313 sps bursts. Hopping
28790.0	07:10	28	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
28860.0	12:14 vt*	02 vd*	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts *Very often. 13 reports
28865.0*	09:00	14	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus. *Also on 29185 kHz CF (25 sps). *2 simultaneous TX on 10m*
28925.0*	09:05	14	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus. *Also on 29185 kHz CF (25 sps). *2 simultaneous TX on 10m*
28960.0	08:31 vt*	15 vd*	03	IRN		RADAR	313**	45K0E	OTHR. **313 sps bursts only *Also on 16/03, 1024 UTC

URE; Gaspar, EA6AMM. Team members: EA4021SWL, EB4APL

kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
29000.0*	13:02	06	03	IRN		RADAR	150	45K0E	OTHR. Alternating 150 and 313 sps bursts. *Also on 28860 kHz CF. *2 simultaneous TX on 10m*
29100.0	12:33 vt*	01 vd*	03			N0N J3E-U		3K20E	Carrier with spurious. Long-lasting . *Very often. Sometimes, USB non amateur traffic (unid sts, male voices, Slavic language. BW = 3K20E
29185.0	09:01	14	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29230.0	16:04	27	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29235.0	12:18	23	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29255.0	13:44	30	03			RADAR	12.5	40K0E	OTHR. Most probably, UK SBA, Cyprus
29275.0	09:35	03	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29295.0	11:17	17	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29300.0*	08:31	08	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. Hopping. *Also on 28860 kHz CF. *2 simultaneous TX on 10m*
29335.0	11:04	31	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29400.0*	07:40	04	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. *Also on 28860 kHz CF and on 28500 kHz CF. *3 simultaneous TX on 10m*
29400.0	07:00	09	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. *Also on 28860 kHz CF. 2 simultaneous TX on 10m
29460.0	07:45	11	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29465.0	07:42	11	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29490.0	15:02	09	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29490.0	09:28	20	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29500.0*	07:44	10	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. *Also on 28860 kHz CF. *2 simultaneous TX on 10m*
29500.0*	06:56 vt**	11 vd**	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. Hopping. *Also on 28860 kHz CF. *2 simultaneous TX on 10m* **Also RX on 14/03 and 16/03; vt
29500.0	06:54 vt*	17 vd*	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps. Hopping. *Often. 8 reports
29505.0	08:34	24	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29540.0	10:12	24	03			RADAR	12.5	40K0E	OTHR. Most probably, UK SBA, Cyprus
29550.0*	08:04	07	03	IRN		RADAR	150 313	45K0E	OTHR. Alternating 150 and 313 sps bursts. Hopping. *Also on 28860 kHz *CF. 2 simultaneous TX on 10m*
29575.0	10:00	07	03			RADAR	12.5	40K0E	OTHR. Most probably, OTHR G, UK SBA, Cyprus
29600.0	13:13 vt*	11 vd*	03	G		RADAR	50	20K0E	OTHR. UK SBA, Cyprus *Also on 24/03, 1245 UTC
29615.0	08:02	20	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus
29615.0	14:01	21	03	G		RADAR	25	20K0E	OTHR. UK SBA, Cyprus

VERON; Ruud, PG1R. Credits to observers Dick PA0GRU, Rene PA3EQO, Kees PA2CHM

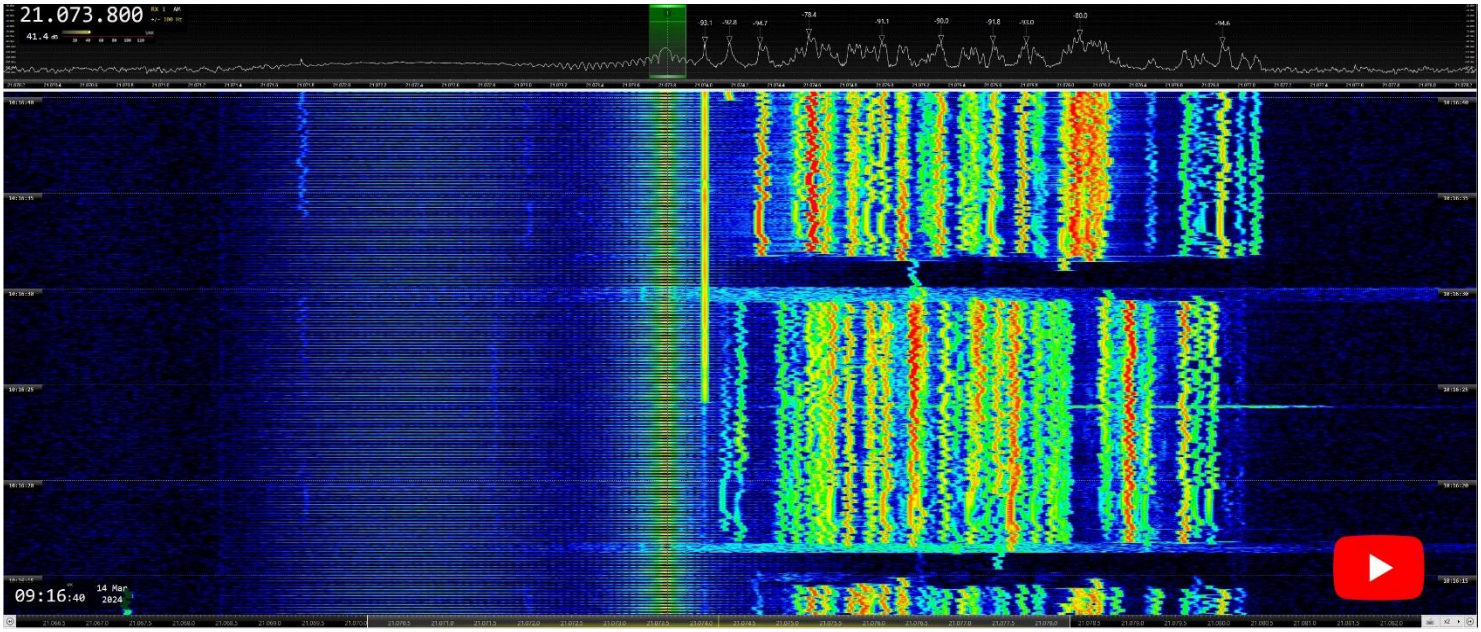
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7054.0	1808	10	03	RUS		F1B		200H	UiPtr

VERON; Ruud, PG1R. **Credits to observers Dick PA0GRU, Rene PA3EQO, Kees PA2CHM**

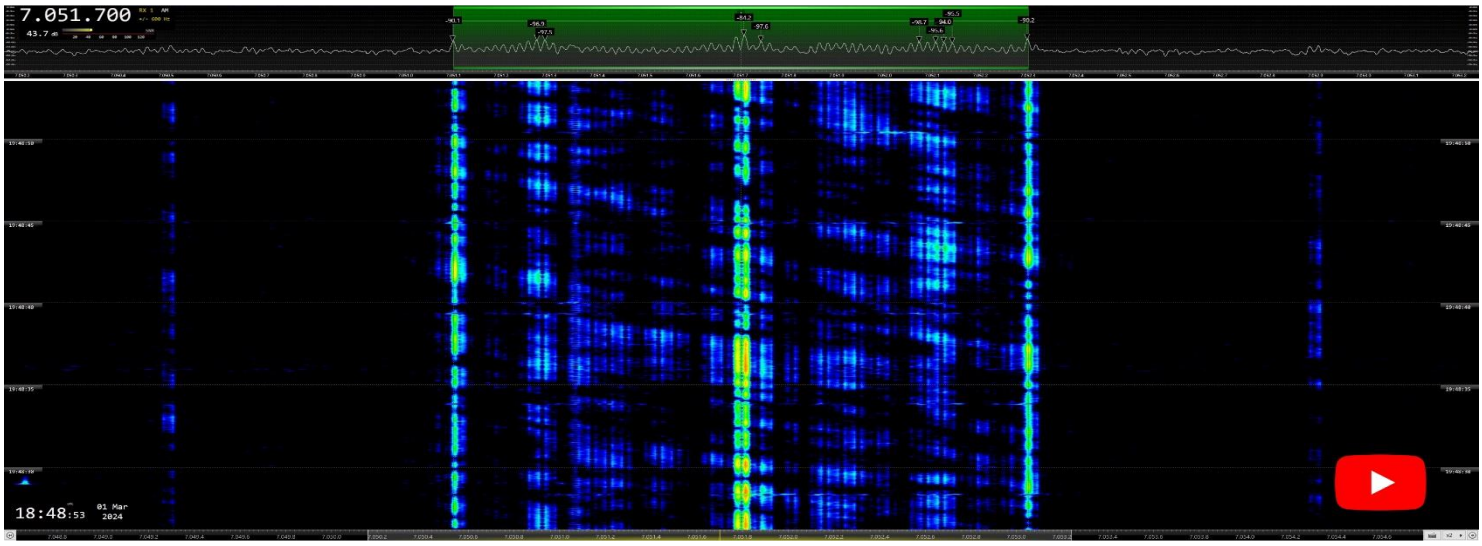
kHz	UTC	DD	MM	ITU	IDENT	MODE	BD /sps	SH / BW	DETAILS
7055.0	1930	23	03	UKR/ RUS		J3E-L		2K80E	Comments & music; 2 TX on same freq.
7063.0	1910	10	03			RADAR	40	12K0E	CF; OTHR Contayner; very strong
7080.0	1748	31	03	RUS		F1B		250H	UiPtr
7137.0	1927	10	03			F1B		200H	UiPtr
7156.0	1919	03	03			XXX		2K40E	CF; jammer
7172.0	1438	10	03			J7D		1K80E	CF; MFSK-8
14008.0	0922	06	03	RUS		F1B		250H	UiPtr
14008.0	1020	07	03	RUS		F1B		200H	UiPtr; Daily
14092.0	0915	28	03	RUS		F1B		250H	Long lasting
14102.0	1551	17	03	CHN		RADAR	50	10K0E	CF; OTHR; bursts
14192.0	1017	02	03	RUS		F1B		200H	UiPtr; idle
14192.0	1000	10	03	RUS		F1B		250H	UiPtr
14192.0	1159	30	03	RUS		F1B		250H	UiPtr
14202.5	1601	03	03			XXX		1K20E	CF; jammer
14354.0	1548	30	03	RUS		RADAR	40	12K0E	CF; OTHR Contayner
18107.1	1229	10	03			F1B		200H	UiPtr
21200.0	1702	21	03	MRC		J3E-U			Moroccan fishery
21290.0	0715	21	03	G		RADAR	50	20K0E	OTHR; UK AB Cyprus
24895.0	1300	06	03			XXX		8K0E	CF; unknown digital signal; jammer?; disturbing J38R operation
28150.0	0915	03	03	G		RADAR		20K0E	
28468.0	1046	10	03			F1B		400H	UiPtr

Contact: Gaspar, EA6AMM. IARUMS Region 1 coordinator: iarums@iaru-r1.org

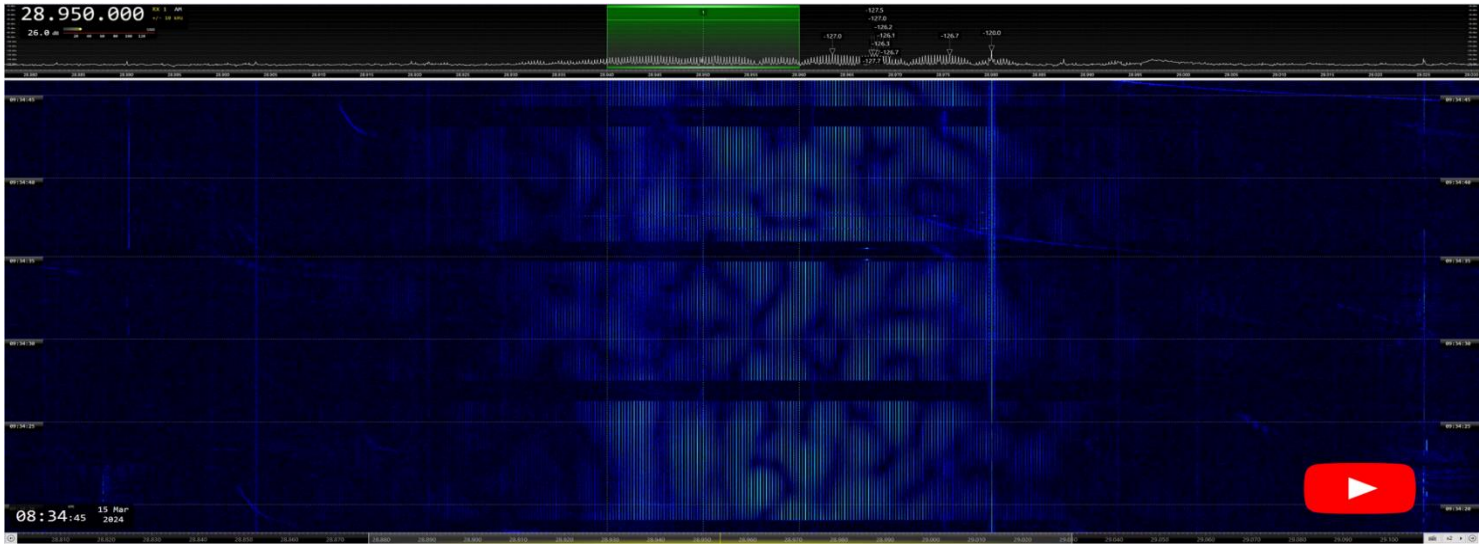
IARUMS R1 Coordinators: https://www.iaru-r1.org/spectrum/monitoring-system/iarums-region-1-coordinators/
Visit our website: https://www.iaru-r1.org/about-us/committees-and-working-groups/iarums/



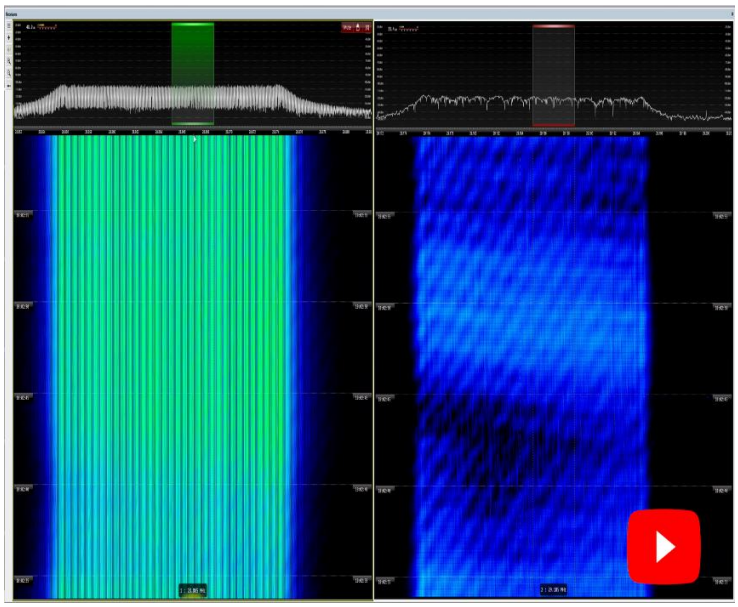
14 MAR 2024, 0840 UTC XXX, like fast dots (A1N). Simultaneous transmission on 14073.9 kHz, 21073.8 kHz, 21209.8 kHz and on 24914.76 kHz



01 March 2024, 1848 UTC. 7051.7 kHz CF: TDL. PSK. BW = 1K20E. 800 Bd



25 March 2024, 0834 UTC: 28950 kHz CF. IRN OTHR. BW ca 45K0E. 313 sps bursts only



Leftt: 14 March 2024, 0900 UTC: 2 X OTHR G (UK SBA, Cyprus on 10m. BW = 20K0E. 28865: 50 sps. 29185 kHz CF: 25 sps.
Right: 12 March 2024, 0755 UTC. 21395 kHz USB: MIL-188-141A ALE 2G + ROBUST. IDs: BC5 – DB5