entr0py Encore - 003 5G

Project	entr0py Encore
Status	Planning
Contact	metalgamer
Episode Number	003
Subject	5G
Recording Date	2020-04-20
Publish Date	2020-04-22

<html>

<script src="https://cdn.podlove.org/web-player/5.x/embed.js"></script><script>podlovePlayer('#podloveplayer', {"audio":[{"mimeType":"audio/ogg","size":"178183979","title":"OGG VBR 320 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-320.ogg"},{"mimeType":"audio/ogg","size":"148964850","title":"OGG VBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-256.ogg"},{"mimeType":"audio/ogg","size":"108213771","title":"OGG VBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-192.ogg"},{"mimeType":"audio/ogg","size":"72175725","title":"OGG VBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-128.ogg"},{"mimeType":"audio/ogg","size":"50635042","title":"OGG VBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-96.ogg"},{"mimeType":"audio/ogg","size":"126469627","title":"OGG VBR 320 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-320.ogg"},{"mimeType":"audio/ogg","size":"126469627","title":"OGG VBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-256.ogg"},{"mimeType":"audio/ogg","size":"117016377","title":"OGG VBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-192.ogg"},{"mimeType":"audio/ogg","size":"83145332","title":"OGG VBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-128.ogg"},{"mimeType":"audio/ogg","size":"62581054","title":"OGG VBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-96.ogg"},{"mimeType":"audio/mpeg","size":"112575776","title":"MP3 VBR 320 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-320.mp3"},{"mimeType":"audio/mpeg","size":"112575776","title":"MP3 VBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-256.mp3"},{"mimeType":"audio/mpeg","size":"112575776","title":"MP3 VBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-192.mp3"},{"mimeType":"audio/mpeg","size":"70281944","title":"MP3 VBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-128.mp3"},{"mimeType":"audio/mpeg","size":"44504357","title":"MP3 VBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-96.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 320 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-320.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-

vbr-256.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-192.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-128.mp3"},{"mimeType":"audio/mpeg","size":"60018390","title":"MP3 VBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-96.mp3"},{"mimeType":"audio/mpeg","size":"164456821","title":"MP3 CBR 320 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-320.mp3"},{"mimeType":"audio/mpeg","size":"131582450","title":"MP3 CBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-256.mp3"},{"mimeType":"audio/mpeg","size":"98708079","title":"MP3 CBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-192.mp3"},{"mimeType":"audio/mpeg","size":"65833709","title":"MP3 CBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-128.mp3"},{"mimeType":"audio/mpeg","size":"49396905","title":"MP3 CBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-96.mp3"},{"mimeType":"audio/mpeg","size":"164456821","title":"MP3 CBR 320 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-320.mp3"},{"mimeType":"audio/mpeg","size":"131582450","title":"MP3 CBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-256.mp3"},{"mimeType":"audio/mpeg","size":"98708079","title":"MP3 CBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-192.mp3"},{"mimeType":"audio/mpeg","size":"65833709","title":"MP3 CBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-128.mp3"},{"mimeType":"audio/mpeg","size":"49396524","title":"MP3 CBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-96.mp3"},{"mimeType":"audio/flac","size":"256236340","title":"FLAC Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo.flac"},{"mimeType":"audio/flac","size":"203709649","title":"FLAC Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono.flac"}],"duration":"1:8:29.228","files":[{"mimeType":"audio/opus","size":"134623083","title":"OPUS VBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-256.opus"},{"mimeType":"audio/opus","size":"95215336","title":"OPUS VBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-192.opus"},{"mimeType":"audio/opus","size":"61325862","title":"OPUS VBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-128.opus"},{"mimeType":"audio/opus","size":"45991465","title":"OPUS VBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-96.opus"},{"mimeType":"audio/opus","size":"33978526","title":"OPUS VBR 64 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-64.opus"},{"mimeType":"audio/opus","size":"149101178","title":"OPUS VBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-256.opus"},{"mimeType":"audio/opus","size":"115999996","title":"OPUS VBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-192.opus"},{"mimeType":"audio/opus","size":"77640275","title":"OPUS VBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-128.opus"},{"mimeType":"audio/opus","size":"57856330","title":"OPUS VBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-96.opus"},{"mimeType":"audio/opus","size":"37948920","title":"OPUS VBR 64

Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-64.opus"},{"mimeType":"audio/ogg","size":"178183979","title":"OGG VBR 320 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-320.ogg"},{"mimeType":"audio/ogg","size":"148964850","title":"OGG VBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-256.ogg"},{"mimeType":"audio/ogg","size":"108213771","title":"OGG VBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-192.ogg"},{"mimeType":"audio/ogg","size":"72175725","title":"OGG VBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-128.ogg"},{"mimeType":"audio/ogg","size":"50635042","title":"OGG VBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-96.ogg"},{"mimeType":"audio/ogg","size":"126469627","title":"OGG VBR 320 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-320.ogg"},{"mimeType":"audio/ogg","size":"126469627","title":"OGG VBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-256.ogg"},{"mimeType":"audio/ogg","size":"117016377","title":"OGG VBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-192.ogg"},{"mimeType":"audio/ogg","size":"83145332","title":"OGG VBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-128.ogg"},{"mimeType":"audio/ogg","size":"62581054","title":"OGG VBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-96.ogg"},{"mimeType":"audio/mpeg","size":"112575776","title":"MP3 VBR 320 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-320.mp3"},{"mimeType":"audio/mpeg","size":"112575776","title":"MP3 VBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-256.mp3"},{"mimeType":"audio/mpeg","size":"112575776","title":"MP3 VBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-192.mp3"},{"mimeType":"audio/mpeg","size":"70281944","title":"MP3 VBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-128.mp3"},{"mimeType":"audio/mpeg","size":"44504357","title":"MP3 VBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-vbr-96.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 320 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-320.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-256.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-192.mp3"},{"mimeType":"audio/mpeg","size":"79148380","title":"MP3 VBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-128.mp3"},{"mimeType":"audio/mpeg","size":"60018390","title":"MP3 VBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-vbr-96.mp3"},{"mimeType":"audio/mpeg","size":"164456821","title":"MP3 CBR 320 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-320.mp3"},{"mimeType":"audio/mpeg","size":"131582450","title":"MP3 CBR 256 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-256.mp3"},{"mimeType":"audio/mpeg","size":"98708079","title":"MP3 CBR 192 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-192.mp3"},{"mimeType":"audio/mpeg","size":"65833709","title":"MP3 CBR 128 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-cbr-128.mp3"},{"mimeType":"audio/mpeg","size":"49396905","title":"MP3 CBR 96 Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo-

cbr-96.mp3"},{"mimeType":"audio/mpeg","size":"164456821","title":"MP3 CBR 320 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-320.mp3"},{"mimeType":"audio/mpeg","size":"131582450","title":"MP3 CBR 256 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-256.mp3"},{"mimeType":"audio/mpeg","size":"98708079","title":"MP3 CBR 192 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-192.mp3"},{"mimeType":"audio/mpeg","size":"65833709","title":"MP3 CBR 128 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-128.mp3"},{"mimeType":"audio/mpeg","size":"49396524","title":"MP3 CBR 96 Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono-cbr-96.mp3"},{"mimeType":"audio/flac","size":"256236340","title":"FLAC Stereo","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-stereo.flac"},{"mimeType":"audio/flac","size":"203709649","title":"FLAC Mono","url":"https://download.c3l.lu/dlbase/entr0py_enc0re/003-5G/003-5G-mono.flac"}],"link":"https://wiki.c3l.lu/doku.php?id=projects:entr0py_encore:003_5g","poster":"https://projects.c3l.lu/C3L/Artwork/raw/tip/Projects/entr0py_Encore/003-5G/PNG/003-5G.png","publicationDate":"2020-04-22T00:00:00+00:00","show":{"link":"https://wiki.c3l.lu/doku.php?id=projects:entr0py-encore","title":"entr0py Encore"},"title":"003 - 5G","version":5},
{"theme":{"tokens":{"brand":"#000000FF","brandDark":"#000000FF","brandDarkest":"#000000FF","brandLightest":"#FFFFFFFF","shadeDark":"#807E7C","shadeBase":"#807E7C","contrast":"#000","alt":"#fff"}}});</script></html>

Overview

1. Introduction
2. 2G, 3G, 4G, 5G - What the heck?
    1. Technical standard bodies
        1. 3GPP
3. Technical Aspects & Differences to 4G
    1. Frequency & Bandwidth
    2. Cell-structure
    3. MIMO
    4. Beamforming
    5. QoS
4. For what use/applications of 5G
    1. IoT
    2. Agriculture
    3. "Normal people"
    4. Bridge to next fiber access
    5. Health
5. Netneutrality
    1. What is net neutrality?
    2. "Social packages" - net neutrality for enterprises
    3. QoS
    4. Two-class network
6. Security aka. Huawei, Cisco. Monopoly's
    1. Built-In espionage & surveillance
7. Health
    1. Wear your alufoil hat

    2. General implications
    3. Coronavirus
8. Future
    1. 6G

Sources

- YouTube - re:publica 2019 – Thomas Lohninger: Mit 5G wird Milch und Honig fließen
- Der Standard - 5G: Die Rückkehr der "Strahlenangst"
- Luxembourg 5G Strategy Expert Report
- media.ccc.de - 36C3 - Der Pfad von 4G zu 5G: Die Luftschnittstelle und das Core im Wandel der Zahlen
- media.ccc.de - CCCamp2019 - Die 5G-Überwachungsstandards: Cops gegen Telekoms im ETSI
- media.ccc.de - 36C3 - 5G & Net Neutrality: Status of the Net Neutrality Reform in Europe
- TNO Report - 5G and Net Neutrality: a functional analysis to feed the policy discussion
- Blog: WirelessMoves
- CRE.fm 197: IPv6

Files

Length:

Type	VBR/CBR	Mono/Stereo	Bitrate	Link	Size
OPUS	VBR	Stereo	256	003-5G-stereo-vbr-256.opus	134.6 MB
			192	003-5G-stereo-vbr-192.opus	95.2 MB
			128	003-5G-stereo-vbr-128.opus	61.3 MB
			96	003-5G-stereo-vbr-96.opus	46.0 MB
			64	003-5G-stereo-vbr-64.opus	34.0 MB
		Mono	256	003-5G-mono-vbr-256.opus	149.1 MB
			192	003-5G-mono-vbr-192.opus	116.0 MB
			128	003-5G-mono-vbr-128.opus	77.6 MB
			96	003-5G-mono-vbr-96.opus	57.9 MB
			64	003-5G-mono-vbr-64.opus	37.9 MB
OGG	VBR	Stereo	320	003-5G-stereo-vbr-320.ogg	178.2 MB
			256	003-5G-stereo-vbr-256.ogg	149.0 MB
			192	003-5G-stereo-vbr-192.ogg	108.2 MB
			128	003-5G-stereo-vbr-128.ogg	72.2 MB
			96	003-5G-stereo-vbr-96.ogg	50.6 MB
		Mono	320	003-5G-mono-vbr-320.ogg	126.5 MB
			256	003-5G-mono-vbr-256.ogg	126.5 MB
			192	003-5G-mono-vbr-192.ogg	117.0 MB
			128	003-5G-mono-vbr-128.ogg	83.1 MB
			96	003-5G-mono-vbr-96.ogg	62.6 MB

Type	VBR/CBR	Mono/Stereo	Bitrate	Link	Size
MP3	VBR	Stereo	320	003-5G-stereo-vbr-320.mp3	112.6 MB
			256	003-5G-stereo-vbr-256.mp3	112.6 MB
			192	003-5G-stereo-vbr-192.mp3	112.6 MB
			128	003-5G-stereo-vbr-128.mp3	70.3 MB
			96	003-5G-stereo-vbr-96.mp3	44.5 MB
		Mono	320	003-5G-mono-vbr-320.mp3	79.1 MB
			256	003-5G-mono-vbr-256.mp3	79.1 MB
			192	003-5G-mono-vbr-192.mp3	79.1 MB
			128	003-5G-mono-vbr-128.mp3	79.1 MB
			96	003-5G-mono-vbr-96.mp3	60.0 MB
	CBR	Stereo	320	003-5G-stereo-cbr-320.mp3	164.5 MB
			256	003-5G-stereo-cbr-256.mp3	131.6 MB
			192	003-5G-stereo-cbr-192.mp3	98.7 MB
			128	003-5G-stereo-cbr-128.mp3	65.8 MB
			96	003-5G-stereo-cbr-96.mp3	49.4 MB
		Mono	320	003-5G-mono-cbr-320.mp3	164.5 MB
			256	003-5G-mono-cbr-256.mp3	131.6 MB
			192	003-5G-mono-cbr-192.mp3	98.7 MB
			128	003-5G-mono-cbr-128.mp3	65.8 MB
			96	003-5G-mono-cbr-96.mp3	49.4 MB
FLAC	N/A	Stereo	N/A	003-5G-stereo.flac	256.2 MB
		Mono	N/A	003-5G-mono.flac	203.7 MB

From:
https://wiki.c3l.lu/ - **Chaos Computer Club Lëtzebuerg**

Permanent link:
https://wiki.c3l.lu/doku.php?id=projects:entr0py_encore:003_5g&rev=1587509415

Last update: **2020/04/22 00:50**