

KLIENTS: Ogres novada pašvaldība

REĢ.NR.: 90000024455

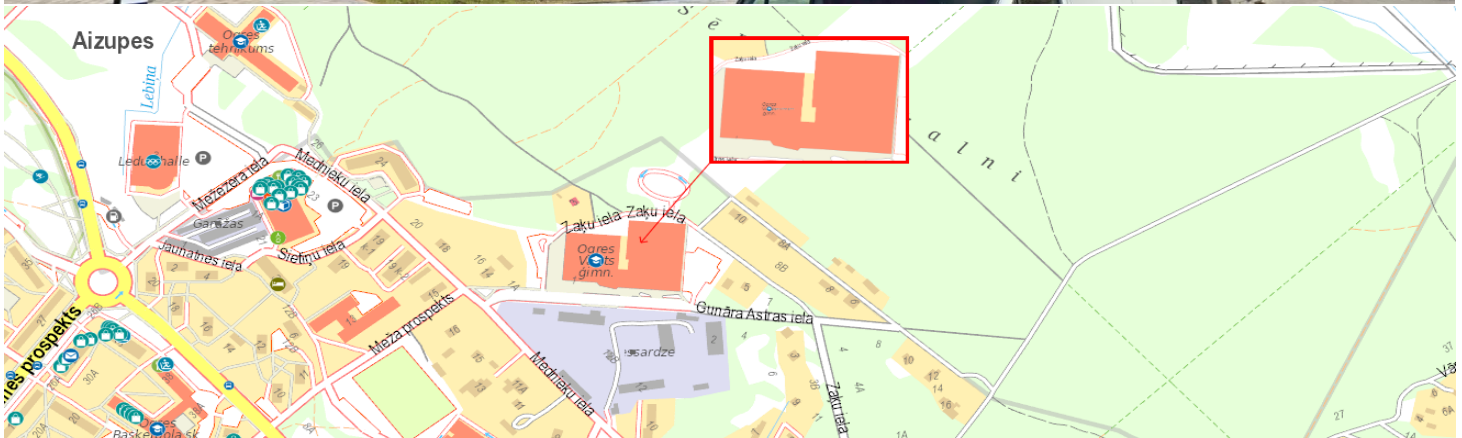
JUR.ADRESE: Brīvības iela 33, Ogre



INSTALĀCIJAS NR: OGR35

ADRESE: Gunāra Astras iela 1, Ogre (57.097139, 24.300953)

Elektronisko sakaru tīklu ierīkošanas Instalācijas skiču projekts (iekštelpu risinājums)



Skaidrojošs apraksts

Elektronisko sakaru tīkla instalācijas skīču projekts izstrādāts kā SIA "BITE Latvija" iekštelpu risinājums UMTS(900), LTE(700) un LTE(800) pārklājuma nodrošināšanai Ogres Valsts ģimnāzijas un sporta ēkas telpās.

Projektā paredzēts:

- Ierīkot optisko kabeli no servertelpas 1. stāvā, līdz servertelpai 2. stāvā;
- Ierīkot *Ericsson* aprīkojumu: *Radio 2479*, *Baseband 6631* un *Power 6302* stiprinot pie sienas servertelpā;
- Ierīkot iekštelpu antenas ar *RFA 1/2"* kabeļu sistēmu, velkot caur esošām vai ierīkojot jaunas ugunsdrošās pārejas, tās atjauno vai ierīko pēc attiecīgā ražotāja izstrādātās metodikas;
- Ierīkot el. pieslēgumu, nodrošinot el. apgādi no tuvākās el. sadales. Aizsargāt ar atsevišķu automātslēdzi, uzstādīt skaitītāju *CEM-C10*;

PIEZĪMES:

- Proj. kabeļus marķē redzamās vietās, sākuma, gala punktus un starp stāviem;
- Pēc nepieciešamības, tiks montēti papildus kabeļu stiprinājumi (Kabeļu kanāli, dībeļi u.t.m.l.);
- Elektrības kabeļa ierīkošana gofrā;
- *Panel* antena aktu zālē un *Sector* antena arēnā melnā krāsā;

IZPILDĪTĀJS IR ATBILDĪGS PAR:

- Materiālu kas saistīts ar elektroapgādi;
- Kabeļu stiprinājumiem;
- Ugunsdrošo materiālu izmantošanu urbumu hermetizācijai;

Kontakti:

Atbildīga persona par instalāciju: Ervīns Raciņš, Tel.: +371 25544966

UMTS/LTE bāzes stacijas projektēšanas uzdevums

Datums: 2024. gada 4. janvārī.
Priekšmets: **OGR35** bāzes stacija.

ID	VIETAS APRAKSTS	ADRESE	ĢEOGRĀFISKAS KOORDINĀTES
OGR35	Ogres Valsts ģimnāzija	Gunāra Astras iela 1, Ogre	Garums: 56.824594 Platums: 24.609474

Šūnu un sektoru konfigurācija:

ŠŪNA	SEKTORS	TEHN.	AZIMUTS [O]	ANTENAS TIPS	ANTENAS NR.	AUGSTUMS [M]	EL. NOLIECE [O]	MEH. NOLIECE [O]	FĪDERU TIPS
OGR35GA	OGR35_G_1	UMTS900	0	OMNI	##	5	0	0	RFA 1/2
OGR35KA	OGR_K_1	LTE700	0	OMNI	##	5	0	0	RFA 1/2
OGR35LA	OGR_L_1	LTE800	0	OMNI	##	5	0	0	RFA 1/2

Bāzes stacijas konfigurācija:

CABINET:	Rack
RADIO:	Radio 2479, 700MHz / 800MHz / 900MHz
BASEBAND:	Baseband 6631
IZEJAS JAUDA, [W]	700 MHz / 800 MHz / 900 MHz 2x30W

Pārraidēs sistēmas konfigurācija:

OPTIKA

Piezīmes:

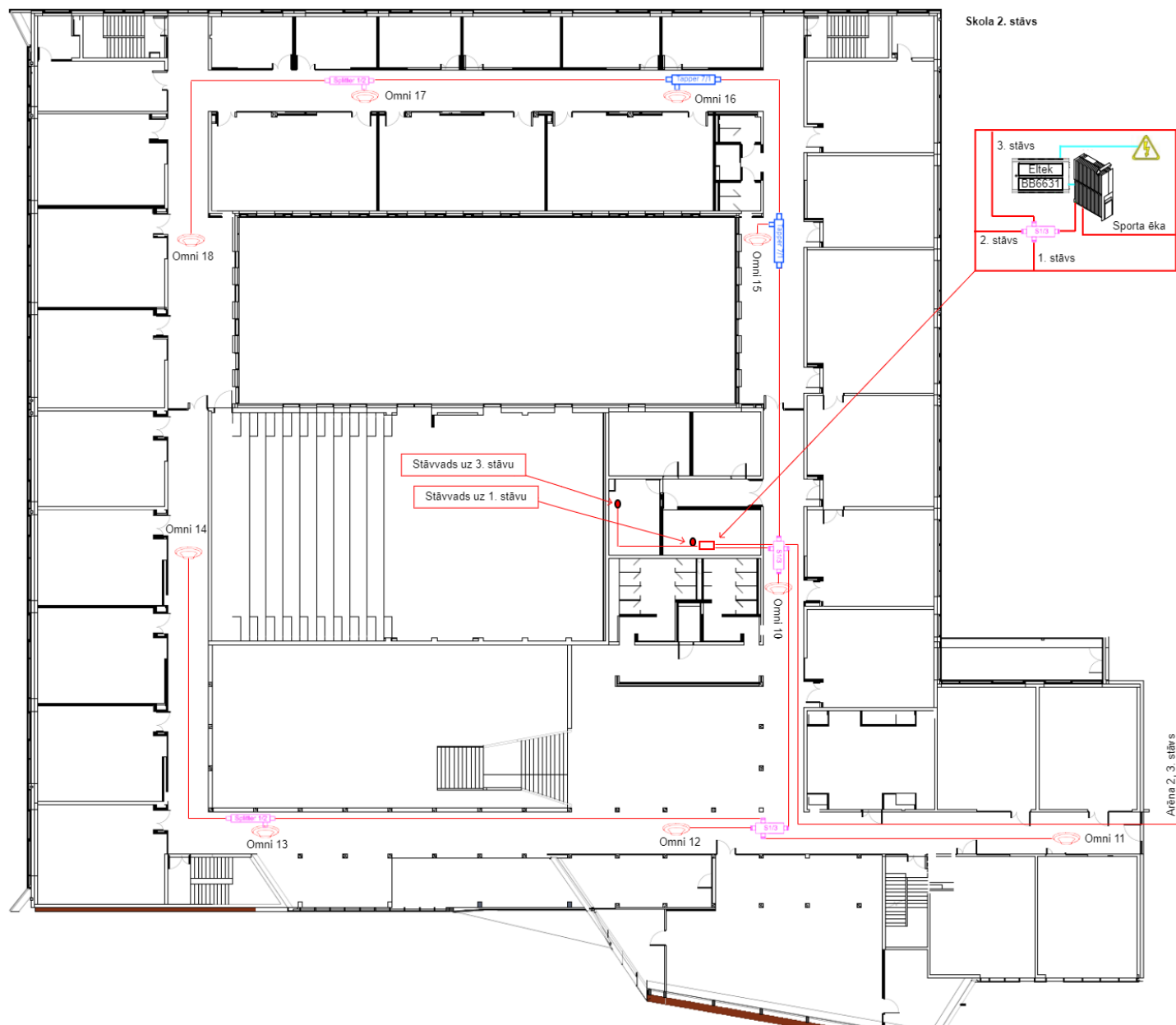
Izvērtēt elektrības pieslēgšanas un radio moduļa uzstādīšanas vietu;

Sagatavoja: Ervīns Raciņš	Oļegs Katajevs
Korporatīvo risinājumu inženieris Tel.: +371 25544966	Radio tīkla plānošanas un optimizācijas vadītājs Tel.: +371 25544146

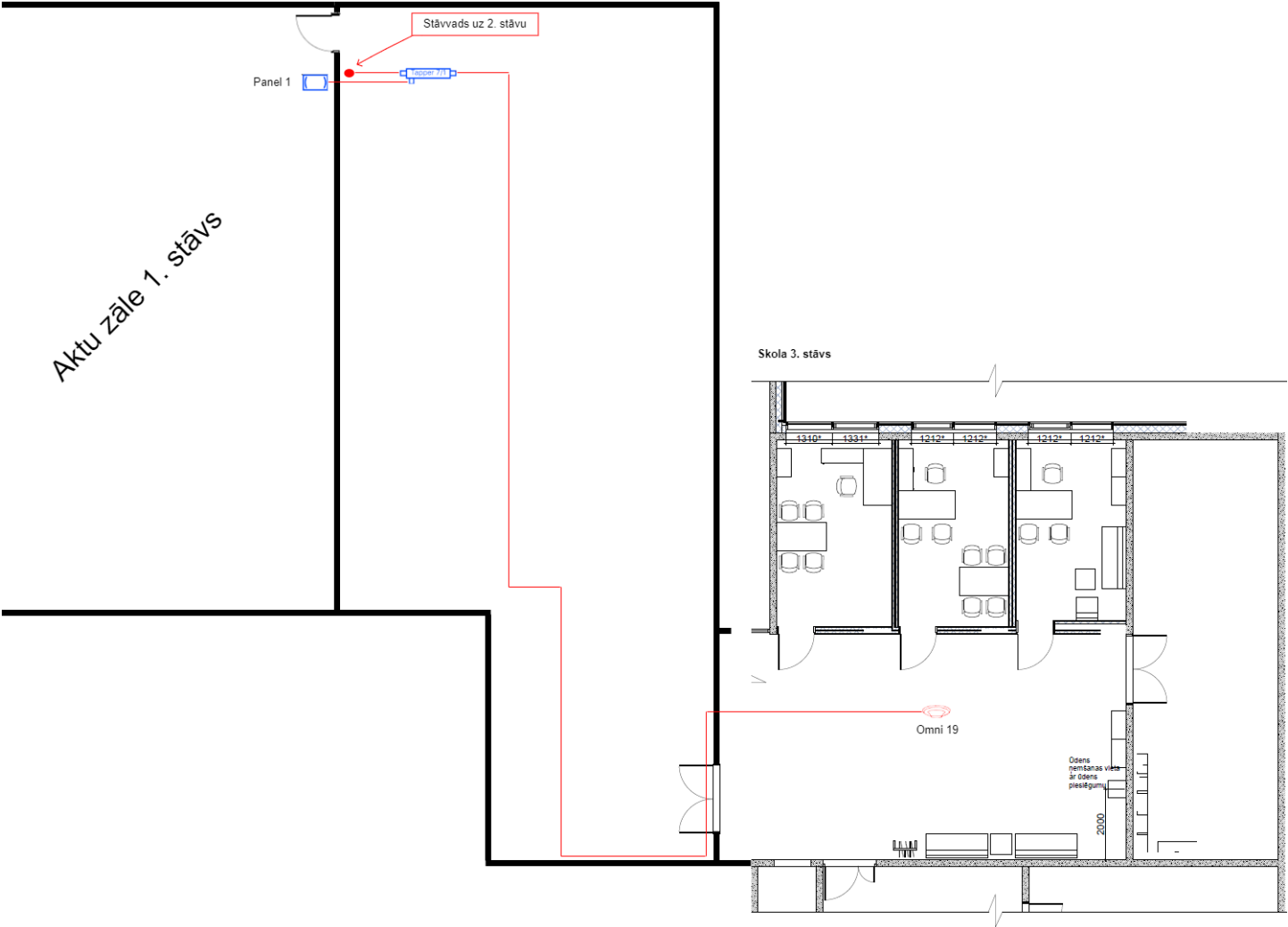
Antenu izvietojums skolā



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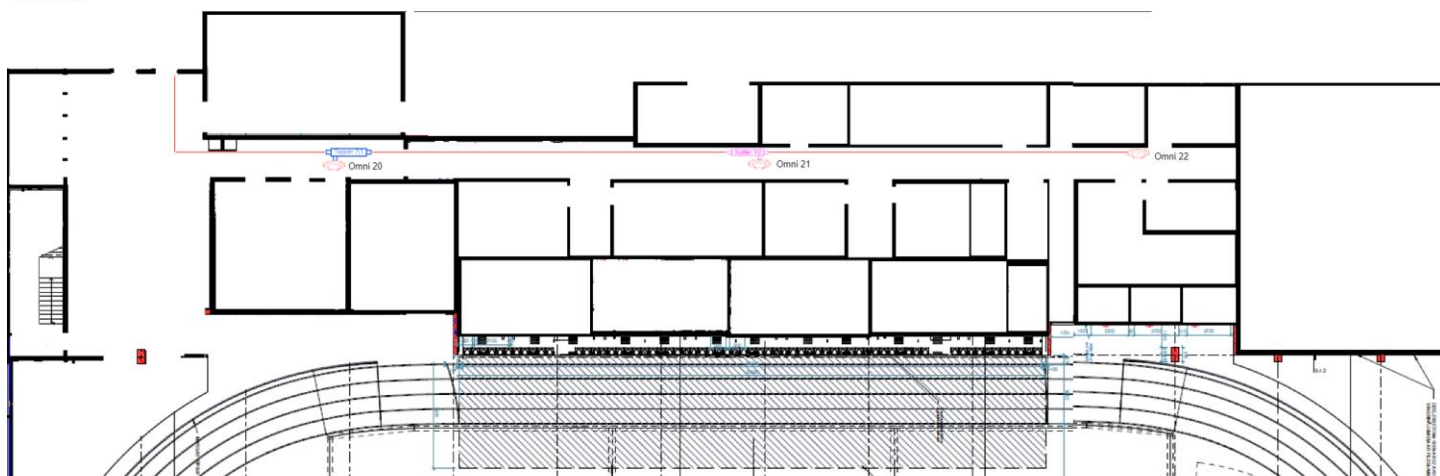


Antenu izvietojums skolā

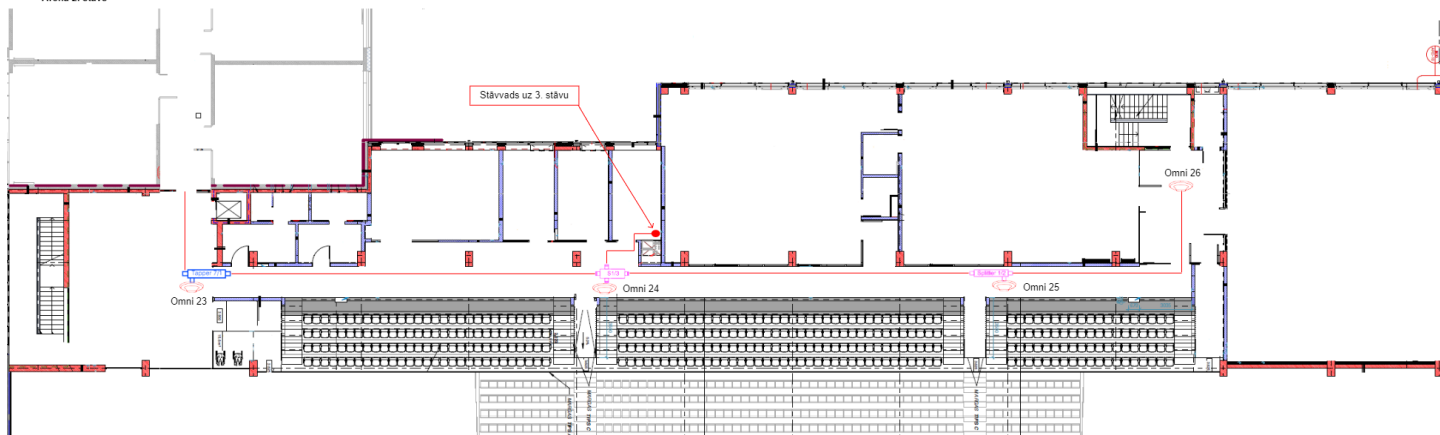


Antenu izvietojums arēnā

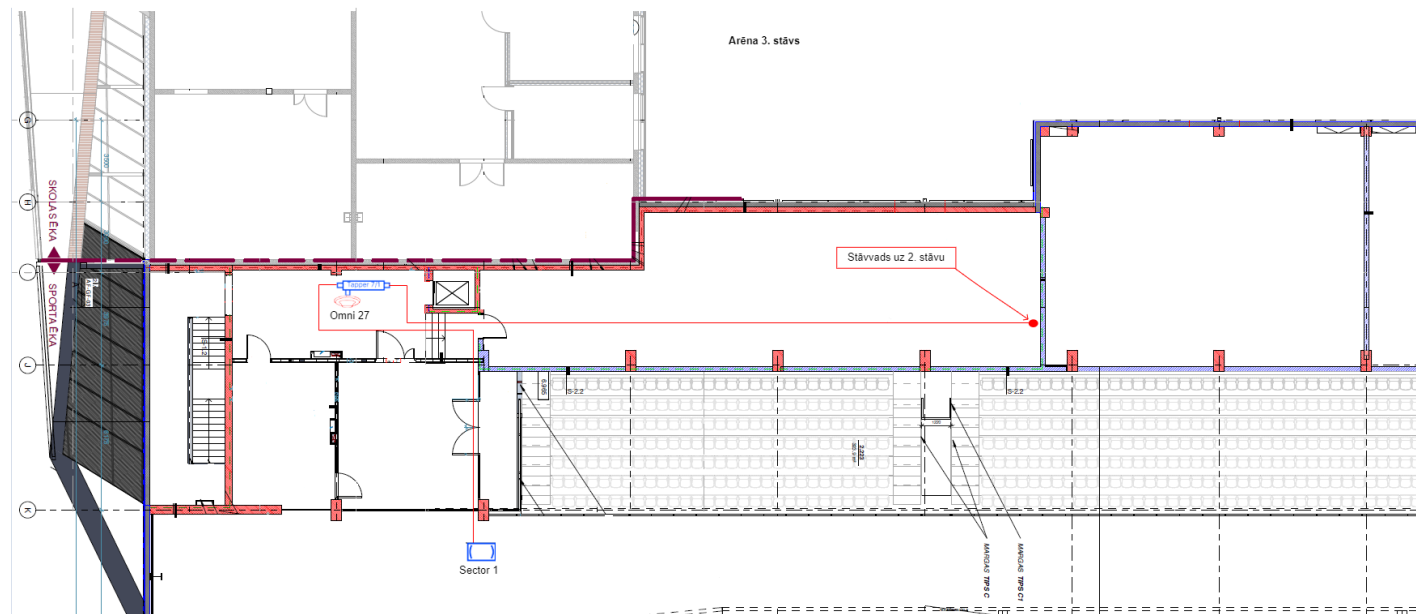
Arēna 1. stāvs



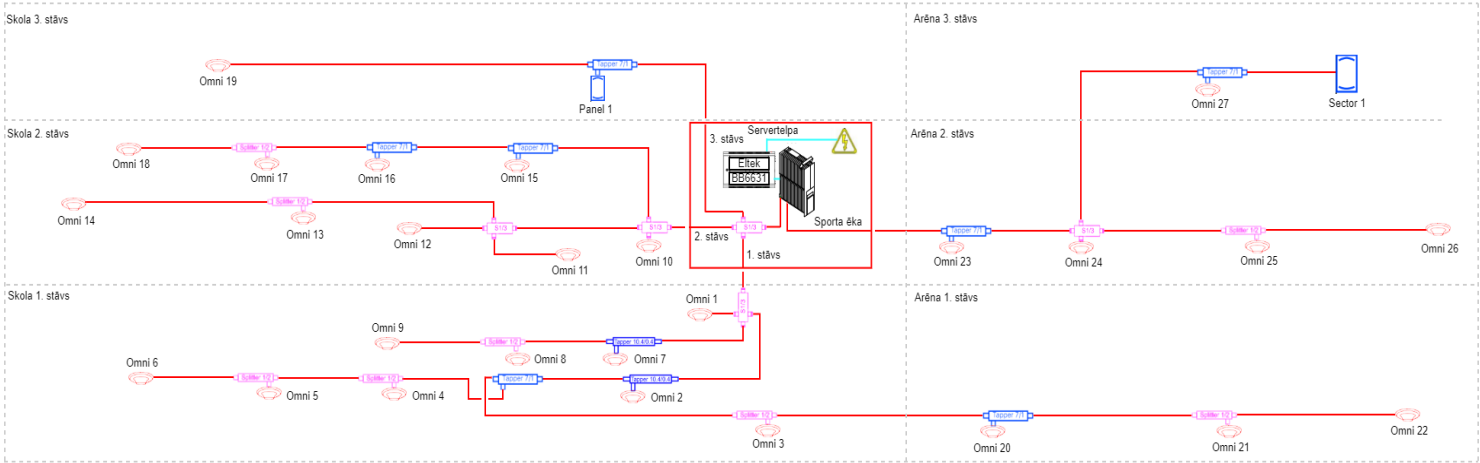
Arēna 2. stāvs



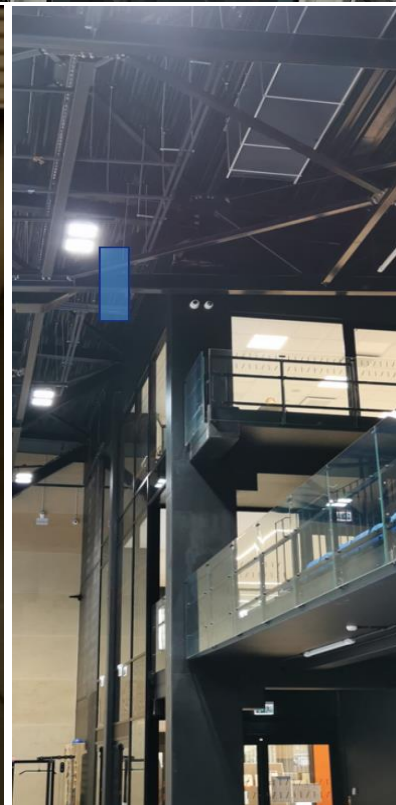
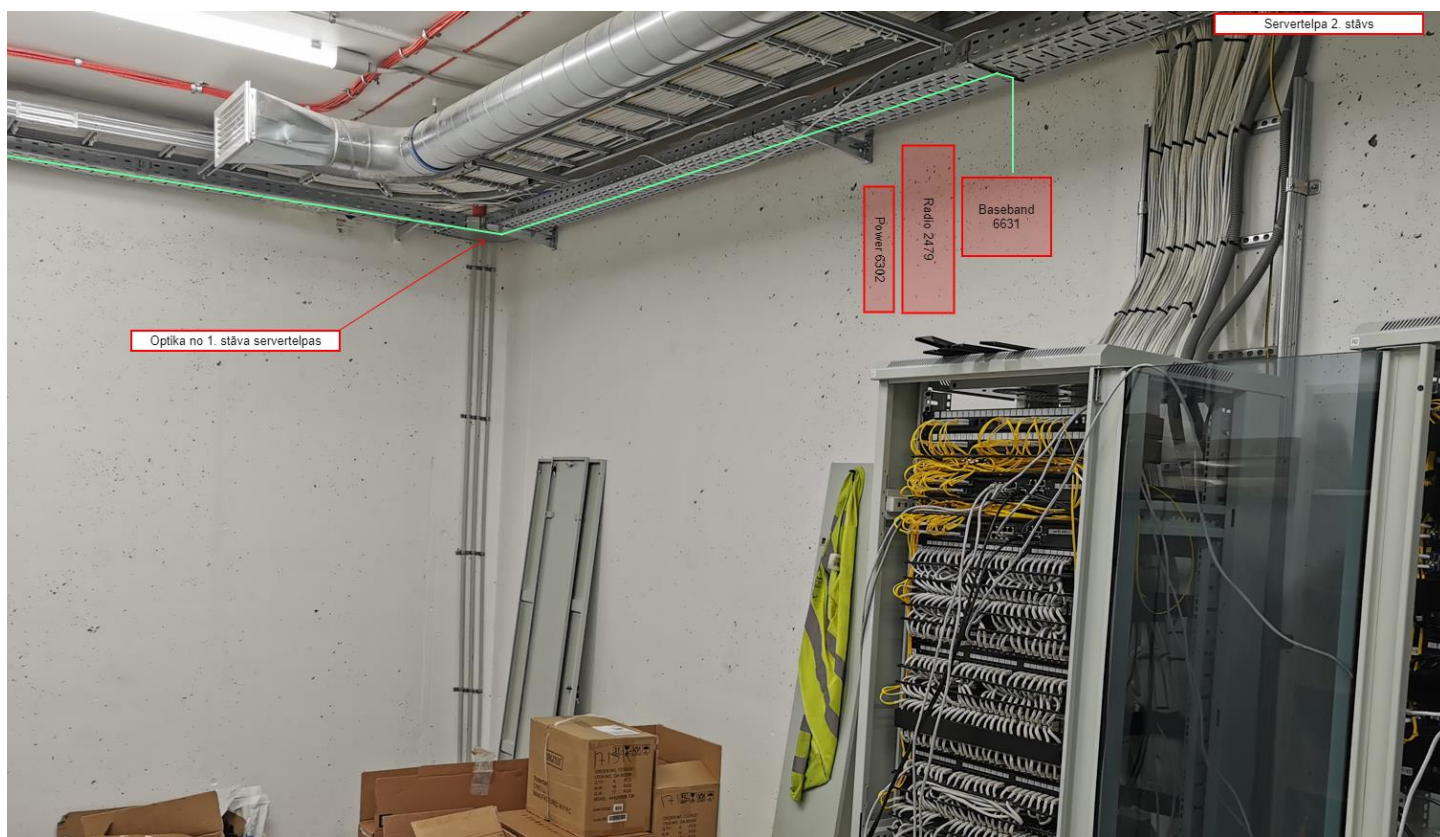
Arēna 3. stāvs

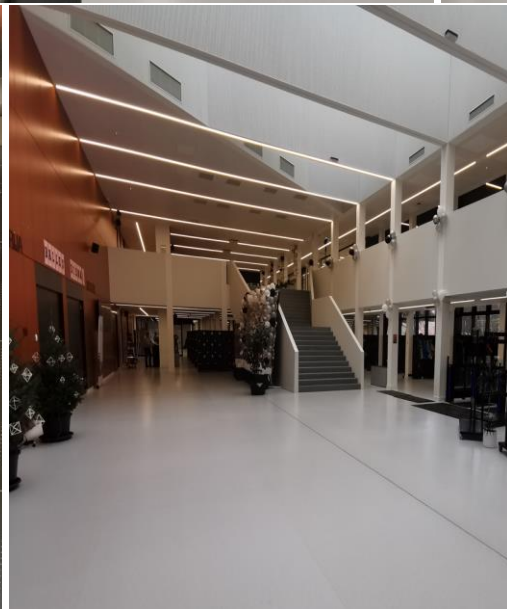
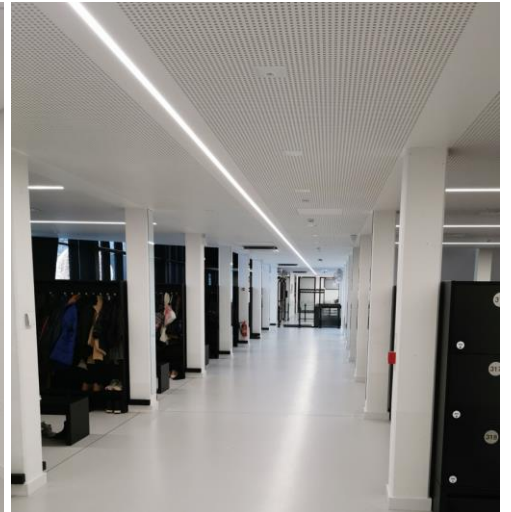


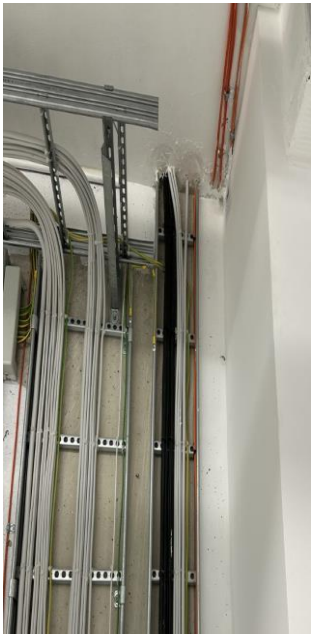
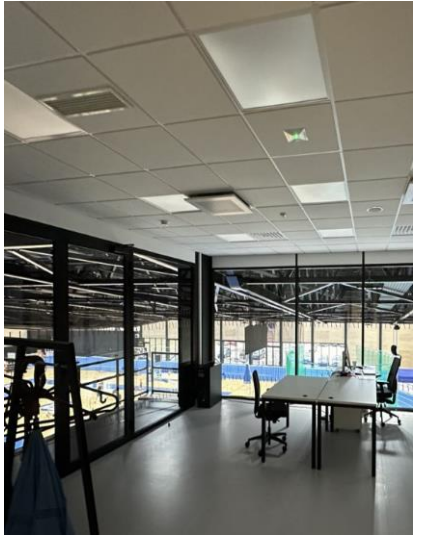
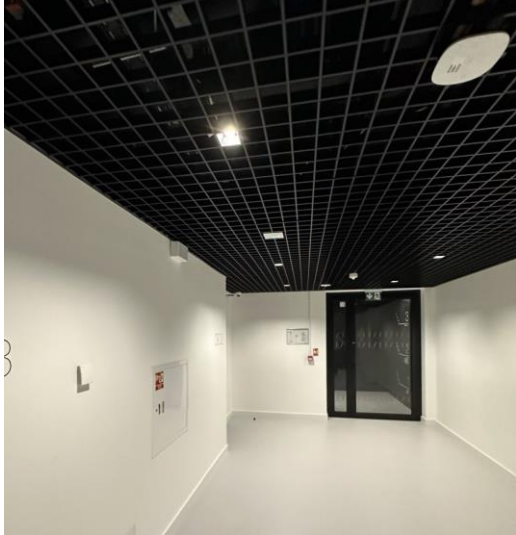
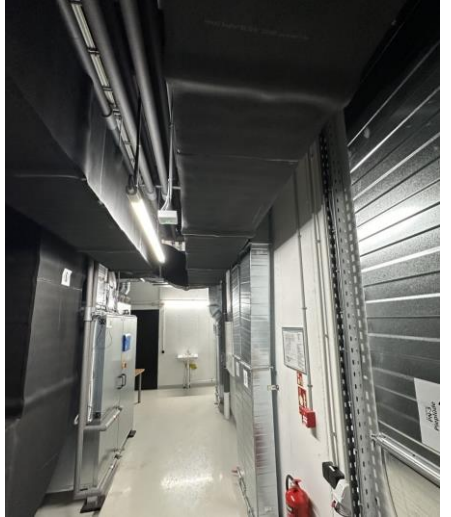
Slēguma shēma arēnā



Fotofiksācija







Specifikācija



Feeder cable RFA 1/2"-50

Specifications

COAXIAL CABLE	
Type	Code
RFA 1/2"-50	NKRFA01200
RFA 1/2"-50 GHF	NKRFA01201
RFA 1/2"-50 BHF	NKRFA01202
RFA 1/2"-50 BHF (UL) CATVR	NKRFA01204

CONSTRUCTION

Inner conductor	Copper-clad aluminium wire	Ø 4.8 mm	(0.19 in)
Dielectric	Cellular polyethylene	Ø 12.1 mm	(0.48 in)
Outer conductor	Corrugated copper tube	Ø 13.9 mm	(0.55 in)
Jacket	See Jacketing Options table below	Ø 16.0 mm	(0.63 in)
Marking	Drinks, cable type, manufacture week, year, batch number and meter mark.		

ELECTRICAL CHARACTERISTICS at +20°C (+68°F)

Characteristic impedance	50 ± 1 Ω
Return loss 24 dB for 100 m (330ft) cable with NKC connectors for following frequency bands:	
• 380-500 MHz	
• 806-960 MHz	
• 1710-1880 MHz	
• 1900-2170 MHz	
• 3400-3600 MHz	
Other bands also available on request.	
Bands according to customer's specifications	
Attenuation	See attenuation table
Velocity factor	0.88
Capacitance	76 pF/m (23pF/ft)
Maximum frequency	9800 MHz
Max power rating	See table
Peak RF voltage rating	1.80 kV
Peak power rating	31.8 kW
DC-resistance	
• Inner conductor	1.44 Ω/km (0.44 Ω/1000ft)
• Outer conductor	2.24 Ω/km (0.68 Ω/1000ft)

ATTENUATION			
Frequency MHz	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Power rating kW
10	0.665	(0.203)	12
30	1.16	(0.354)	6.9
50	1.51	(0.459)	5.3
88	2.01	(0.613)	4.0
100	2.15	(0.655)	3.7
108	2.24	(0.682)	3.6
174	2.86	(0.873)	2.8
200	3.08	(0.938)	2.6
300	3.81	(1.16)	2.1
400	4.43	(1.35)	1.8
450	4.72	(1.44)	1.7
500	4.99	(1.52)	1.6
512	5.06	(1.54)	1.6
600	5.50	(1.68)	1.4
700	5.98	(1.82)	1.3
800	6.43	(1.96)	1.2
850	6.64	(2.03)	1.2
890	6.81	(2.08)	1.2
900	6.85	(2.09)	1.2
950	7.06	(2.15)	1.1
960	7.10	(2.16)	1.1
1000	7.26	(2.21)	1.1
1200	8.02	(2.45)	0.98
1400	8.74	(2.66)	0.90
1600	9.41	(2.87)	0.83
1800	10.0	(3.06)	0.78
1900	10.4	(3.16)	0.76
2000	10.7	(3.25)	0.74
2200	11.3	(3.43)	0.70
2400	11.8	(3.60)	0.66
2600	12.4	(3.77)	0.63

MECHANICAL CHARACTERISTICS

Weight	0.23 kg/m (0.15 lb/ft)
Maximum pulling force	2550 N (562 lb)
Minimum bending radius	
• Single bending	70 mm (2.8 in)
• Repeated bending	120 mm (4.7 in)
Operating temperature range	-55...+80°C (-67...+176°F)
Crush resistance	2.0 kN/mm (110 lb/in)
Bending moment	3.8 Nm (2.8 lb-ft)
Recommended clamp spacing	1.0 m (3.3 ft)

STANDARD DRUM

Cable type	Drum	Standard length m (ft)	Outer diam. (D) cm (in)	Outer width (W) cm (in)	Drum weight (empty) kg (lb)	Total weight kg (lb)	Drum freight volume m ³ (cu.ft)
RFA 1/2"	P11D	500 (1640)	114 (45)	55 (22)	43 (95)	175 (386)	0.71 (25.07)

CODES FOR NKC CONNECTORS

Connector type	Code
7-16 male	NKC1012100
7-16 female	NKC1012200
N male	NKC1012300
N female	NKC1012400
7-16 male Right angle	NKC1012500
N male Right angle	NKC1012600

CELLMAX-D-CPUSE



Cell-Max™ Directional In-building Antenna, 698–960 MHz, 1710–2700 MHz

- This product is part of the CommScope Wired for Wireless® Solution

Product Classification

Product Type	In-building antenna
Product Brand	Cell-Max™

General Specifications

Application	Indoor
Antenna Type	Directional
Antenna Array Characteristic	SISO
Polarization	Vertical
Color	White
Mounting	4-hole wall mounting plate and hardware (included)
Number of Ports	1
Pigtail Cable	RG85U, plenum rated
Radome Material	ABS
RF Connector Interface	N Female

Dimensions

Width	180 mm 7.087 in
Length	210 mm 8.268 in
Pigtail Length	260 mm 10.236 in
Depth	44 mm 1.732 in

CELLMAX-O-CPUSE



Cell-Max™ Omni In-building Antenna, 698–960 MHz and 1710–2700 MHz

- This product is part of the CommScope Wired for Wireless® Solution

Product Classification

Product Type	In-building antenna
Product Brand	Cell-Max™

General Specifications

Application	Indoor
Antenna Type	Omni
Antenna Array Characteristic	SISO
Polarization	Vertical
Color	White
Mounting	Thru-hole ceiling mount (optional)
Number of Ports	1
Pigtail Cable	KSR195, plenum rated
Radome Material	ABS
RF Connector Interface	N Female

Dimensions

Height	85 mm 3.346 in
Pigtail Length	315 mm 12.402 in
Outer Diameter	186 mm 7.323 in

B32x2082-V00

Directional Antenna

XX-Pol 4-port 11/14dBi 0/0T

698-960 / 1695-2690 Fixed Electrical D/T



Type	B3212082-V00 (4.3-10 Female)	B3232082-V00 (N Female)	
Band	R1 (Connector 1 & 2)	Y1 (Connector 3 & 4)	
Frequency (MHz)	698-960	1695-2690	
Gain (dBi)	10.5	13.5	
VSWR	≤ 1.7	≤ 1.7	
Polarization	±45°	±45°	
PIM3 (dBc, @2x43dBm)	≤ -153	≤ -153	
Front-to-Back Ratio (dB)	≥ 20	≥ 20	
Intra-Cluster Isolation (dB)	≥ 20	≥ 22	
Inter-Cluster Isolation (dB)	≥ 25 (R1//Y1)	≥ 22 (Y1//R1)	
Electrical Tilt (°)	0	0	
Horizontal Beamwidth (°)	75	65	
Vertical Beamwidth (°)	36	16	
Input Impedance (Ω)	50	50	
Max. Input Power (W)	100	100	
Lightning Protection	DC Grounded		
Values based on NGMN-P-BASTA (V10.0) requirements.			
Connector	4 x 4.3-10F or 4 x NF (see above type no. list)		
Dimension (mm)	600 x 286 x 132		
Weight (kgs)	TBA		
Max. Wind Velocity (km/h)	200		
Wind Load (N) (@150km/hr wind speed)	146.53 (Frontal)	112.19 (Lateral)	256.43 (Rearside)
Radome Material	UV-PVC (White, RAL 7035)		
Reflector Material	Aluminum		
Operating Temperature (°C)	-40 to +65		
Mounting	Adjustable D/T Clamp for Pole Size Ø50-Ø80 included		

(2942/295, 0363)

