CORNING

Everon™ 6000 Gen 2 DAS Solution Specification Sheet

Features and Benefits

Corning's Everon 6000 Gen 2 DAS Solution is an advanced inbuilding cellular service solution for small, medium, and large size venues, supporting a broad range of cellular generations: 3G,4G and 5G.

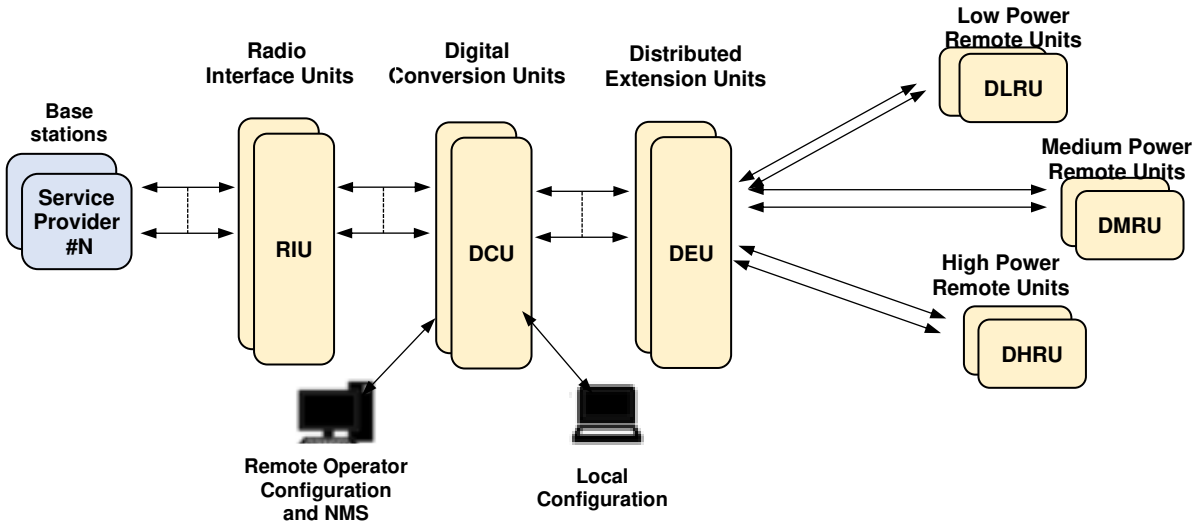
This solution is based on a point-to-multipoint distribution architecture, advanced digital transport and processing, and channelized implementation, enabling efficient utilization of digital links. It is designed to support multi-band, multi-technology, and multi-operator networks over the single fiber-based infrastructure.

The Corning Everon™ 6000 Gen 2 DAS Solution is a high bandwidth distribution architecture that provides preparedness for future radio technologies, broader spectrum, and new frequency bands. Due to its modular design and configuration flexibility, this solution is highly scalable in terms of supported capacity (number of sectors, frequency bands, channels) and remote units (coverage), and can be easily configured to support a large variety of deployment scenarios including single and multi-building ("campus") network topologies.

This solution offers multiple types of digital remote units, supporting a variety of frequency band combinations, with different power levels ranging from 20 dBm per band to 46 dBm per band. Advanced network configuration and management capabilities enable on-site as well as remote end-to-end configuration, system diagnostics, maintenance, and support network operations center (NOC) connectivity.

Features	Benefits
Comprehensive Service Support	600 MHz, 700 MHz, FirstNet, 800/850 MHz, 1900 MHz (PCS), EAWS, 2300 MHz (WCS), 2500 MHz (TDD), 3500 MHz (TDD). Support of MIMO services, FDD and TDD. Supports 3G, 4G, 5G technologies.
Multi-X System	Supports multi-operator, multi-band, multi-technology services over a single infrastructure. Supports single and multi-building ("campus") network solutions.
Highly Modular/Highly Scalable	Can be easily expanded to support additional capacity: sectors, frequency bands, channels, and coverage areas, by increasing the number of remotes.
Advanced Digital Signal Processing	Provides higher dynamic range, enables per-channel granularity, delivers enhanced overall power efficiency, and improves overall system performance.
Digital Common Public Radio Interface (CPRI) based Transport	Provides robust signal distribution with flexible scalability.
Digital Service and Capacity Routing	Enables advanced capacity and coverage management through flexible routing configuration management.
Carrier-Grade Network Management	Network configuration and management capabilities enable on-site and remote end-to-end configuration, system diagnostics, maintenance, support management and control by network management system.

System Architecture: Everon™ 6000 Gen 2 Solution



RIU—Radio Interface Unit

The RIU provides an interface and signal conditioning to signals coupled between the base station RF antenna ports and the DCU.

DCU—Digital Conversion Unit

The DCU provides RF to CPRI (Downlink) and CPRI to RF (Uplink) conversion, where the well-known CPRI (Common Public Radio Interface) standard is used for representing the RF signals.

DEU– Distributed Extension Unit

The DEU is the central Hub and Distribution element for the Everon™ 6000 Gen 2 Solution. The DEU interfaces between the DCU and the remote unit, allowing it to receive the operators service signals in CPRI format, and to route these signals to the remote antenna units. The DEU supports all Corning digital remote antenna units' flavors, for all services, power levels and antenna configurations (SISO or MIMO). Each DEU includes 2 optical ports connected to a DCU, 2 optical ports for cascade, and 24 optical ports for connection to remote units. When more remote antenna units are needed, the system scales up easily by adding additional DEUs.

dLRU—Digital Low-power Remote Unit

The dLRU is a low-power remote antenna unit with 20~24 dBm per MIMO stream per band output RF power and native support of 2x2 MIMO antenna scheme. There are four types of dLRU:

1. Low band dLRU - supports 600 MHz (band 71), 700 MHz Low (band 12), 700 MHz High (band 13), FirstNet (band 14), 800/850 MHz (band 26) bands via one fiber connection.
2. Medium Band dLRU - supports EAWS (band 66), PCS (band 25), WCS (band 30) and 2.5 GHz TDD (band 41) services via 3 fiber connections.
3. Band 41 dLRU - supports single band 2.5 GHz TDD via single fiber.
4. High Band dLRU - supports 3500 MHz TDD (CBRS/C-Band) services via 2 fiber connections.

The dLRU cooling is natural convection with no fans. Due to its IP66 enclosure design the dLRU can also be installed outdoors.

dMRU—Digital Medium-power Remote Unit

The dMRU is a medium-power remote antenna unit with 37~40 dBm per MIMO stream per band output RF power and native support of 2x2 MIMO antenna scheme. The dMRU cooling is based on natural convection, requiring no fans. Due to its IP65 enclosure design, the dMRU can also be installed outdoors.

dHRU—Digital High-power Remote Unit

The dHRU is a high-power modular remote antenna unit which provides 43~46 dBm output RF power per service module, and native support of 2x2 MIMO antenna scheme. The dHRU modular structure enables set ups of up to 8 service modules in 600 MHz, 700 MHz Low/700 MHz High/FirstNet, 800/850 MHz, EAWS, PCS, WCS, 2.5 GHz TDD and 3.5 GHz TDD. The dHRU cooling is based on natural convection, requiring no fans. Due to its IP65 enclosure design the dHRU can also be installed outdoors.

Caution：for use of unauthorized antennas, cables, and/or coupling devices not conforming with ERP/EIRP restrictions is not permitted.

Antenna type and permitted max antenna gain: External Dedicated Antenna with gain 0dBi or less.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 10.2cm between the radiator and your body.

Specifications

Digital Conversion Unit (DCU-G2)

RF donor connection: 600 MHz ~ 4000 MHz

14 x 25Gbps Optical Interface for extension/cascading

Integrated OMT & remote management system

RF Specification		
Bands	Technologies	Frequency Range (MHz)
3500 MHz	LTE/NR	TDD:3400~4000
2500 MHz	LTE/NR	TDD:2496~2690
WCS	LTE/NR	UL:2305~2315, DL:2350~2360
EAWS	LTE/NR	UL:1695~1780, DL:2110~2200
PCS	LTE/NR	UL:1850~1915, DL:1930~2020
850A	LTE/NR	UL:817~849, DL:862~894
700U	LTE/NR	UL:776~798, DL:746~768
700L	LTE/NR	UL:698~716, DL:728~746
600 MHz	LTE/NR	UL:663~698, DL:617~652
Electrical Specification		
Operation Frequency	MHz	RF Cluster 1~2: 2300~4200 MHz, TDD/FDD RF Cluster 3~4: 600~2700 MHz, TDD/FDD
Input power range	dBm	-7~ +3
Maximum Instantaneous Bandwidth	MHz	RF Cluster 1~2: 300 MHz RF Cluster 3~4: 200 MHz
VSWR		<1.8
Interfaces and Mechanical		
CPRI ports		8 x SFP+ (25 Gbps) to DEU
CPRI ports		6 x SFP+ (25 Gbps) to secondary DCU
Ethernet Ports		2 x RJ45 - local monitor, remote monitor
Ethernet Ports		2 x RJ45 - to RIU, PSU
RF ports		4 x Cluster RF connectors to donor radio head Each Cluster RF connector contains 8 simplex ports to RIU
External synchronization		2 x QMA, 10 MHz In/Out

Dimensions (H x W x D)	Inch (mm)	3.46 x 19.09 x 15.75 (88 x 485 x 400)
Weight (approx.)	Lbs (kg)	33 (15)
Powering		48V DC or AC 220/110V
Power Consumption	Watt	250
Operating Temperature		-10°C to +45°C (14°F to 113°F)
Operating Humidity		≤ 85%
Ingress Protection		IP30
Cooling		Fan
Mounting and Installation		19-in Rack mount
Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1

Distributed Extension Unit (DEU-G2)

Radio hub/router for system extension

28 x 25 Gbps Optical Interface

Support DEU cascading

Interfaces and Mechanical		
CPRI Ports		4 x SFP+ (25 Gbps) for DEU cascading
CPRI Ports		24 x SFP+ (25 Gbps) for dLRU/dMRU/dHRU connection
Ethernet Ports		1 x RJ45 - local & remote monitor
Dimensions (H x W x D)	Inch (mm)	1.73 x 19.09 x 14.17 (44 x 485 x 360)
Weight (approx.)	Lbs (kg)	13.23 (6)
Power Supply		48V DC or AC 220/110V
Power Consumption	Watt	200
Operating Temperature		-10°C to +45°C (14°F to 113°F)
Operating Humidity		≤ 85%
Ingress Protection		IP30
Cooling		Fan
Mounting and Installation		19-in Rack mount
Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1

Distributed Extension Unit (DEU-G2-PS)

Radio hub/router for system extension

28 x 25 Gbps Optical Interface

Support DEU cascading

PSU for dLRU

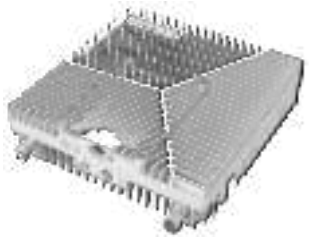
Interfaces and Mechanical		
CPRI Ports		4 x SFP+ (25 Gbps) for DEU cascading
CPRI Ports		24 x SFP+ (25 Gbps) for dLRU/dMRU/dHRU connection
Ethernet Ports		1 x RJ45 - local & remote monitor
Dimensions (H x W x D)	Inch (mm)	3.46 x 19.09 x 14.17 (88 x 485 x 360)
Weight (approx.)	Lbs (kg)	26.46 (12)
Power Supply		Input 48V DC or AC 220/110V PSU output : 48V DC (works with AC 220/110V input)
Power Consumption	Watt	1500
Operating Temperature		-10°C to +45°C (14°F to 113°F)
Operating Humidity		≤ 85%
Ingress Protection		IP30
Cooling		Fan
Mounting and Installation		19-in Rack mount
Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1

digital Low-power Remote Units-2.5G (dLRU-G2-25)

194 MHz IBW with 2T2R MIMO

1 x 25 Gbps Optical Interface to DEU

Compact design for easy installation



RF Specification		
Frequency Range	MHz	2496-2690
Max. Operating Bandwidth-Noncontiguous		Full band
Unit Configuration		2T2R
Instantaneous Bandwidth	MHz	194
Downlink Output Power	dBm	23
Attenuator Adjustable Range (1dB step)	dB	0-20
Channel Bandwidth	MHz	10/20/40/60/80/100
Uplink Noise Figure (typical)	dB	8
Uplink IIP3 (typical)	dBm	-12
VSWR		≤ 1.8
EVM (256 QAM) (TM3.1A @ Rated power)	%	< 3.5
Spurious Emission		3GPP TS 36.106; 3GPP TS 38.104 V15.5.0 (sections 6; 7)
Interfaces and Mechanical		
CPRI Port		1 x SFP+ (25 Gbps) to DEU
Antenna Ports		2 x 4.3-10 female to external antenna
Dimensions (W x H x D)	Inch (mm)	10.6 x 10.6 x 2.95 (270 x 270 x 75)
Weight (approx.)	Lbs (kg)	11 (5)
Powering		48V DC
Power Consumption	Watt	65
Operating Temperature		-40°C to +55°C (-40°F to 131°F)
Operating Humidity		≤ 95%
Ingress Protection		IP66
Cooling		Convection
Mounting and Installation		Ceiling/Wall/Shell

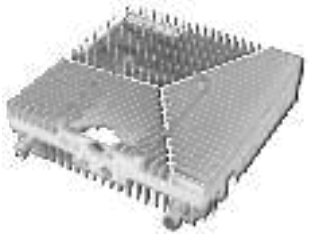
Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1
Radio		FCC CFR 47, Part 27

digital Low-power Remote Units High Band (dLRU-G2-35)

530 MHz IBW with 2T2R MIMO

2 x 25 Gbps Optical Interface to DEU

Compact design for easy installation



RF Specification		
Frequency Range	MHz	3450-3980
Max. Operating Bandwidth-Noncontiguous		Full band
Unit Configuration		2T2R
Instantaneous Bandwidth	MHz	530
Downlink Output Power	dBm	24
Attenuator Adjustable Range (1dB step)	dB	0-20
Channel Bandwidth	MHz	10/20/40/50/60/80/100
Uplink Noise Figure (typical)	dB	8
Uplink IIP3 (typical)	dBm	-12
VSWR		≤ 1.8
EVM (256 QAM) (TM3.1A @ Rated power)	%	< 3.5
Spurious Emission		3GPP TS 36.106; 3GPP TS 38.104 V15.5.0 (sections 6; 7)
Interfaces and Mechanical		
CPRI Port		2 x SFP+ (25 Gbps) to DEU
Antenna Ports		2 x 4.3-10 female to external antenna
Dimensions (W x H x D)	Inch (mm)	10.6 x 10.6 x 2.95 (270 x 270 x 75)
Weight (approx.)	Lbs (kg)	11 (5)
Powering		48V DC
Power Consumption	Watt	75
Operating Temperature		-40°C to +55°C (-40°F to 131°F)
Operating Humidity		≤ 95%
Ingress Protection		IP66
Cooling		Convection
Mounting and Installation		Ceiling/Wall/Shell

Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1
Radio		FCC CFR 47, Part 27

digital Medium-power Remote Unit-2.5GHz (dMRU-G2-25)

194 MHz IBW with 2T2R MIMO

1 x 25 Gbps Optical Interface to DEU

Compact design for easy installation

RF Specification		
Frequency Range	MHz	2496-2690
Max. Operating Bandwidth-Noncontiguous		Full band
Unit Configuration		2T2R
Instantaneous Bandwidth	MHz	194
Downlink Output Power	dBm	39
Attenuator Adjustable Range (1dB step)	dB	0-20
Channel Bandwidth	MHz	10/20/40/60/80/100
Uplink Noise Figure (typical)	dB	6
Uplink IIP3 (typical)	dBm	-12
VSWR		≤1.5
EVM (256 QAM) (TM3.1A @ Rated power)	%	< 3.5
Spurious Emission		3GPP TS 36.106; 3GPP TS 38.104 V15.5.0 (sections 6; 7)
Coupling value	dB	35
Interfaces and Mechanical		
CPRI Port		1 x SFP+ (25 Gbps) to DEU
Antenna Ports		2 x 4.3-10 female to external antenna
Coupling port		2 x QMA for testing
Dimensions (W x H x D)	Inch (mm)	17.3 x 3.5 x 14.6 (440 x 88 x 370)
Weight (approx.)	Lbs (kg)	30.8 (14)
Powering		AC 220/110V
Power Consumption	Watt	140
Operating Temperature		-40°C to +55°C (-40°F to 131°F)
Operating Humidity		≤ 95%
Ingress Protection		IP65

Cooling		Convection Fan (Optional for extreme cases)
Mounting and Installation		Wall/19-in Rack mount
Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1
Radio		FCC CFR 47, Part 27

digital Medium-power Remote Unit High Band (dMRU-G2-35)

530 MHz IBW with 2T2R MIMO

2 x 25 Gbps Optical Interface to DEU

Compact design for easy installation

RF Specification		
Frequency Range	MHz	3450-3980
Max. Operating Bandwidth-Noncontiguous		Full band
Unit Configuration		2T2R
Instantaneous Bandwidth	MHz	530
Downlink Output Power	dBm	40
Attenuator Adjustable Range (1dB step)	dB	0-20
Channel Bandwidth	MHz	10/20/40/50/60/80/100
Uplink Noise Figure (typical)	dB	8
Uplink IIP3 (typical)	dBm	-12
VSWR		≤1.5
EVM (256 QAM) (TM3.1A @ Rated power)	%	< 3.5
Spurious Emission		3GPP TS 36.106; 3GPP TS 38.104 V15.5.0 (sections 6; 7)
Coupling value	dB	35
Interfaces and Mechanical		
CPRI Port		1 x SFP+ (25 Gbps) to DEU
Antenna Ports		2 x 4.3-10 female to external antenna
Coupling port		2 x QMA for testing
Dimensions (W x H x D)	Inch (mm)	17.3 x 3.5 x 14.6 (440 x 88 x 370)
Weight (approx.)	Lbs (kg)	33 (15)
Powering		AC 220/110V
Power Consumption	Watt	250
Operating Temperature		-40°C to +55°C (-40°F to 131°F)
Operating Humidity		≤ 95%
Ingress Protection		IP65
Cooling		Convection

		Fan (Optional for extreme cases)
Mounting and Installation		Wall/19-in Rack mount
Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1
Radio		FCC CFR 47, Part 27

Radio Interface Unit-2.5 GHz (RIU-G2-25)

8 input ports for donor RF signal connection

Active ATT, input power detection & ALC protection for RF module

Max. input power of 37 dBm/port

RF Specification			
Frequency Range		MHz	2496-2690 (LTE/NR)
Downlink Input Power		dBm	-10~37
Insert Loss	Downlink	dB	30
	Uplink	dB	40
ATT Adjustable Range (1dB step)		dB	0-25
Return Loss		dB	≤ -15
Interfaces and Mechanical			
RF input ports			8 x QMA (Duplexer) to donor signal
RF Output ports			8 x QMA (Simplex) to DCU
Ethernet Ports			2 x RJ45 - Upper cascade / Lower cascade
Dimensions, H x W x D		Inch (mm)	1.73 x 19.09 x 14.2 (44 x 485x 360)
Weight (approx.)		Lbs (kg)	13.2 (6)
Powering			48V DC
Power Consumption		Watt	20
Operating Temperature			-10°C to +45°C (14°F to 113°F)
Operating Humidity			≤ 85%
Ingress Protection			IP30
Cooling			Fan
Mounting and Installation			19-in Rack mount
Regulation			
EMC			EMC FCC 47 CFR Part 15 sub part B
Safety			UL62368-1

Radio Interface Unit-3.5 GHz (RIU-G2-35)

8 input ports for donor RF signal connection

Active ATT, input power detection & ALC protection for RF module

Max. input power of 37 dBm/port

RF Specification			
Frequency Range		MHz	3400-4000 (LTE/NR)
Downlink Input Power		dBm	-10~37
Insert Loss	Downlink	dB	30
	Uplink	dB	40
ATT Adjustable Range (1dB step)		dB	0-25
Return Loss		dB	≤ -15
Interfaces and Mechanical			
RF input ports			8 x QMA (Duplexer) to donor signal
RF Output ports			8 x QMA (Simplex) to DCU
Ethernet Ports			2 x RJ45 - Upper cascade / Lower cascade
Dimensions, H x W x D		Inch (mm)	1.73 x 19.09 x 14.2 (44 x 485x 360)
Weight (approx.)		Lbs (kg)	13.2 (6)
Powering			48V DC
Power Consumption		Watt	20
Operating Temperature			-10°C to +45°C (14°F to 113°F)
Operating Humidity			≤ 85%
Ingress Protection			IP30
Cooling			Fan
Mounting and Installation			19-in Rack mount
Regulation			
EMC			EMC FCC 47 CFR Part 15 sub part B
Safety			UL62368-1

Antenna Multiplexer(COMB-G2-FDD-25-35)

6-in/2-out multiplexer for 2X2 MIMO

6 input ports for low, medium, and high band remote radio unit connection

2 output ports for antenna connection

Compatible with both low- and medium-power remote radio unit

Electrical Characteristics				
Port		Port1, Port4 (FDD Bands)	Port2, Port5 (2.5 Band)	Port3, Port6 (3.5 Band)
Frequency Range	MHz	617-2360	2496-2690	3450-4000
Bandwidth	MHz	1743	194	550
Insert Loss	dB	≤0.6(25°C) ≤1(-40 to +85°C)	≤0.6(25°C) ≤1(-40 to +85°C)	≤0.6(25°C) ≤1(-40 to +85°C)
Pass Band Ripple	dB	≤0.5	≤0.5	≤0.5
Out of Band Attenuation	dB	≥50@2496-2690 ≥50@3450-4000	≥50@617-2360 ≥50@3450-4000	≥50@617-2360 ≥50@2496-2690
Maximum Input Power (Per Port, Average)	W	50	15	15
PIM	dBc	-155 (@ 2x10W)		
Return Loss	dB	≥18		
Isolation	dB	≥40		
Port Type		4.3-10 F		
Impedance	Ω	50		

Mechanical Characteristics		
Dimensions, H x W x D	Inch (mm)	10.6 x 6.6 x 1.6 (270 x 168 x 41)
Weight (approx.)	Lbs (kg)	4.8 (2.2)
Operating Temperature		-40°C to +85°C (-40°F to 185°F)
Ingress Protection		≤ 95%
Environmental		IP66

Regulation		
EMC		EMC FCC 47 CFR Part 15 sub part B
Safety		UL62368-1