

Revised: November 28, 2023

Providing critical in-building communications for First Responders and Emergency Services when it matters most.

For over 20 years Westell has been a trusted partner for reliable in-building wireless solutions for public safety. Our public safety product portfolio includes softwaredefined BDAs, donor and coverage antennas, and a full line of high performance passives components to support VHF, UHF, 700, 800 & 900 MHz band.

Many jurisdictions are adopting the latest NFPA or IFC codes and standards for Emergency Radio Responder Communications Systems (ERCES/ERRCS). Our public safety products are code compliant and deliver the lowest total cost of ownership (TCO) in the industry, making Westell one of the most trusted brands and a preferred vendor for many AHJs, RF consultants, distributors, and system integrators.

Trust the experts at Westell on your next ERCES project.



Westell® Public Safety Portfolio

Westell offers a wide range of the most complete solution sets for public safety in-building coverage with a focus on solutions that are easier to install, easier to obtain AHJ acceptance, and reduce total cost of ownership. Our innovative technology helps to assure that our BDAs don't cause interference to the public safety radio networks.

Solutions Include:

- Donor antennas
- BDAs/signal boosters
- · Battery backup solutions
- Passives (splitters, couplers, tappers, etc.)
- Coverage antennas
- Annunciator panels



ProtectLink™ Class A/B BDAs



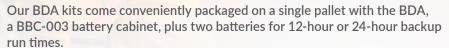
Westell ProtectLink Public Safety BDAs represent the next revolution in public safety DAS design, offering the most flexible platform available on the market. The UL2524 Listed platform includes 700/800 MHz band support, 0.5 watt, 1 watt, and 2.5 watt RF output options, Class A or Class B operation, single-band or dual-band operation. Westell's ProtectLink public safety BDAs feature one of the smallest form factors of any BDA on the market.

ProtectLink includes a full-featured, easy-to-use web GUI. The product also includes the following features: Channelized squelch, intelligent oscillation management, dedicated FirstNet® filter profile, built-in isolation test, NFPA/UL2524 alarm capabilities, a built-in communication link for an optional remote annunciator panel, built-in battery backup circuitry. Class A settings include 32 filters per band with individual filter bandwidths from 12.5KHz to full band. Class B settings include four individual filters starting at 250KHz bandwidth to full band.

Part Number	Description
CS40-734834-2524**	Dual-band-700/800 MHz, 0.5, 1, 2.5 watt, Class A/B BDA.
CS40-000834-CAN	Single-band 800MHz, 0.5, 1, 2.5 watt, Class A/B BDA. Canada, ISED RSS-131.
CS40-ANNUNC	BDA remote annunciator for monitoring a single device.



ProtectLink[™] BDA Kits



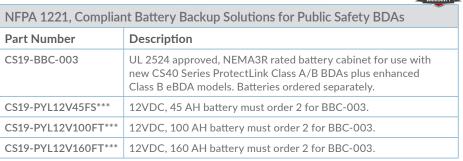
Be sure to order the remote annunciator (CS40-ANNUNC) separately if needed.

Part Number	Description
CS40-734834-2524K1** 12-Hour Kit	Dual-band-700/800 MHz, 2.5 watt, Class A/B, CS19-BBC-003 backup battery cabinet, and (2) CS19-PYL12V100FT*** backup batteries.
CS40-734834-2524K2** 24-Hour Kit	Dual-band-700/800 MHz, 2.5 watt, Class A/B, CS19-BBC-003 backup battery cabinet, and (2) CS19-PYL12V160FT*** backup batteries.

^{**}Models CS40-734834-2524, CS40-734834-2524K1, and CS40-734834-2524K2 do not support Fiber DAS.

Battery Backup

WESTELL



^{***}Models CS19-PYL12V45FS, CS19-PYL12V100FT, and CS19-PYL12V160FT are covered under their respective manufacturer's warranty.







ProtectLink™ Class A/B Fiber DAS



Westell's innovative DAS-ready BDA allows for the addition of fiber remotes for expanded coverage. Fiber DAS Ready BDA's support the addition of an Optical Master Unit (OMU) mounted below or next to the master BDA. The DAS-ready BDA includes all necessary connections to interface with the OMU while keeping a service RF port to provide the signal to the area around the master BDA. The OMU accommodates up to 8 Optical Radio Amps, each connected to a Fiber Optical Remote Unit over a single strand of single-mode fiber. This feature allows integrators to purchase only the number of Optical Radio Amps needed to support the number of remotes installed, thereby reducing installation costs.

The master BDA and each remote optical unit will support Ethernet connections to access all devices in the entire network. The DAS remote annunciator provides status on all devices in the network from a single point for immediate identification of faults.

Part Number	Description	
Main BDAs		
CS40-734834-00D-A0	Dual-band 700/800 MHz, 2.5 watt, fiber DAS Class A/B BDA.	
Optical Main Units (OMU)		
CS40-OPTMASTER	Optical master chassis, supports up to 8 radio modules.	
CS40-OPTRADIOMOD Optical radio module, converts RF to fiber, one per remo		
Optical Radio Amps (ORU)		
CS40-734834-00D-AR	Dual-band 700/800 MHz, 2.5 watt, Class A/B remote amp.	
CS40-734834-00D-BR	Dual-band 700/800 MHz, 2.5 watt, Class B remote amp.	



Remote Alarm Annunciators



Alarm annunciation of each active element in the system can be monitored through a remote annunciator. With both optical and audible annunciation of alarms, First Responders will have a clear indication of the DAS system performance as they enter the building. Select the single unit annunciator to monitor a single Optical Radio Amp or the DAS annunciator to monitor all DAS devices from a single location.

Part Number	Description
CS40-ANNUNC	BDA remote annunciator for monitoring a single device.
CS40-DASANNUNC	DAS remote annunciator for monitoring all DAS units.



CS40-DASANNUNC

Interconnect CS40-DASANNUNC with a single standard CAT5 cable up to 3000 feet away.

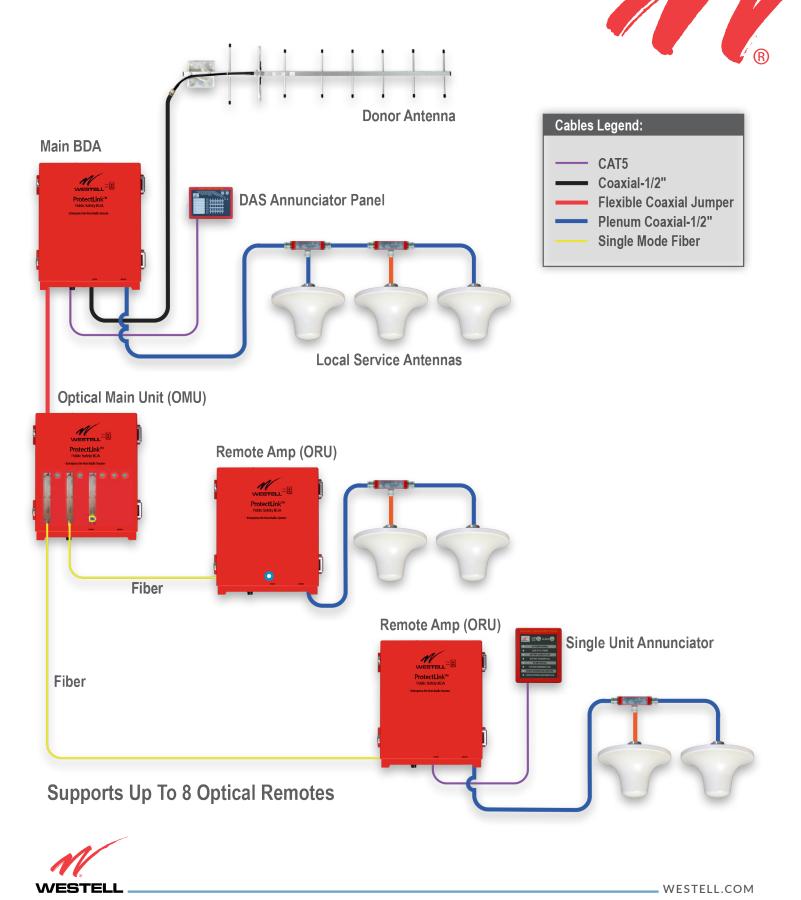
This compact and clean solution mounts to the front of a typical 2 or 3 gang electrical box for monitoring the health of each active DAS element.



CS40-ANNUNC



ProtectLink[™] Class A/B Fiber DAS Design



ProtectLink™ UHF BDAs



The ProtectLink™ UHF Class A/B BDA is offered in 4-port simplex, duplex and duplex dual window models with 5 watts and 85dB of gain. Class A operation includes 16 filters per band with individual filter bandwidths from 12.5KHz to 75KHz, and wideband operation of up to 62MHz UHF.

All versions include a full-featured, easy to use web GUI, factory configurable filters, intelligent oscillation management, built-in isolation test, NFPA/UL2524 alarm capabilities, built-in battery backup circuitry, and a built-in communication link for an optional remote annunciator panel.

Part Number	Description	
CS40-U37-U0D-A0	UHF 450-512 MHz, 5 watt, 4 port simplex, 62 MHz, Class A/B	
CS40-U37-U2D-A0	UHF 450-512 MHz, 5 watt, 3.5 MHz PB/1.5 MHz GB duplex, Class A/B	
CS40-U37-U4D-A0	UHF 450-512 MHz, 5 watt, 3.5 MHz PB/1.5 MHz GB dual window duplex, Class A/B	
Optional Components		
CS40-ANNUNC	BDA remote annunciator for monitoring a single device	
CS19-BBC-003	Wall-mountable battery cabinet	
CS19-PYL12V100FT***	100AH sealed lead-acid battery (2 required, 12 hour)	
CS19-PYL12V160FT***	160AH sealed lead-acid battery (2 required for 24 hour)	

ProtectLink[™] VHF BDAs



The ProtectLink™ VHF Class A/B BDA is offered in 4-port simplex, and duplex with high or low band operation models with 1 watt and 85dB of gain. Class A operation includes 16 filters per band with individual filter bandwidths from 12.5KHz to 75KHz, and wideband operation of up to 24MHz VHF.

All versions include a full-featured, easy to use web GUI, factory configurable filters, intelligent oscillation management, built-in isolation test, NFPA/UL2524 alarm capabilities, built-in battery charger circuitry, and a built-in communication link for an optional remote annunciator panel.

Part Number	Description	
CS40-V30-V1D-A0	VHF 150-174 MHz, 1 watt, 4 port simplex, 24 MHz, Class A/B	
CS40-V30-V2D-A0	VHF 150-162 MHz, 1 watt, 3.5 MHz PB/1.5 MHz GB, duplex, Class A/B, low band	
CS40-V30-V3D-A0	VHF 162-174 MHz, 1 watt, 3.5 MHz PB/1.5 MHz GB duplex, Class A/B, high band	
Optional Components		
CS40-ANNUNC	BDA remote annunciator for monitoring a single device	
CS19-BBC-003	Wall-mountable battery cabinet	
CS19-PYL12V100FT***	100AH sealed lead-acid battery (2 required, 12 hour)	
CS19-PYL12V160FT***	160AH sealed lead-acid battery (2 required for 24 hour)	

^{***}Models CS19-PYL12V45FS, CS19-PYL12V100FT, and CS19-PYL12V160FT are covered under their respective manufacturer's warranty.







Class B Public Safety BDAs



Westell's Class B public safety BDAs are loaded with features that AHJs prefer, designed to make installation simpler, and take up less wall space. These Class B BDAs support 700 MHz, 700 FirstNet (Band 14), and 800 MHz, and are listed to UL2524 and NEMA-4 compliant. They feature a full complement of features, including adjustable frequency passbands, automatic isolation test, independent gain control, front panel annunciator, built-in BBU circuitry, UpLink squelch, intelligent oscillation management, options for a cleaner installer-friendly installation, and more.

Dual-Band 700/800 MHz, Class B BDAs	
Part Number	Description
CS14-720-820**	80dB gain, 1/2 watt dual band public safety BDA.
CS14-722-822**	90dB gain, 2 watt dual band public safety BDA.

Class B Public Safety BDA Kits



Part Number	Description
CS14-720-820K1** 12-Hour Kit	Enhanced BDA, Class B, 1/2 watt, CS19-BBC-003 backup battery cabinet, and (2) CS19-PYL12V45FS*** backup batteries.
CS14-722-822K1** 12-Hour Kit	Enhanced BDA, Class B, 2 watt, CS19-BBC-003 backup battery cabinet, and (2) CS19-PYL12V45FS*** backup batteries.
CS14-720-820K2** 24-Hour Kit	Enhanced BDA, Class B, 1/2 watt, CS19-BBC-003 backup battery cabinet, and (2) CS19-PYL12V100FT*** backup batteries
CS14-722-822K2** 24-Hour Kit	Enhanced BDA, Class B, 2 watt, CS19-BBC-003 backup battery cabinet, and (2) CS19-PYL12V100FT*** backup batteries.

^{**}Westell's enhanced line of BDAs include a 2-year warranty. Extended warranty of up to 5 years is available.

Battery Backup



NFPA 1221, Compliant Battery Backup Solutions for Public Safety BDAs	
Part Number	Description
CS19-BBC-003	UL 2524 approved, NEMA3R rated battery cabinet for use with new CS40 Series ProtectLink Class A/B BDAs plus enhanced Class B eBDA models. Batteries ordered separately.
CS19-PYL12V45FS***	12VDC, 45 AH battery must order 2 for BBC-003.
CS19-PYL12V100FT***	12VDC, 100 AH battery must order 2 for BBC-003.
CS19-PYL12V160FT***	12VDC, 160 AH battery must order 2 for BBC-003.



^{***}Models CS19-PYL12V45FS, CS19-PYL12V100FT, and CS19-PYL12V160FT are covered under their respective manufacturer's warranty.

Universal Remote Annunciator



Westell's Universal Remote Annunciator (URA) is a compact, easy to install remote annunciator for ERCES/ERRCS installations that will operate with any manufacturer's BDA/BBU system. The URA consists of a small NEMA4 interface unit (IU) that mounts next to the BDA plus a compact remote annunciator (RA) that can be mounted up to 3000 feet away, connected with a single CAT5/6 cable. Connections to the fire alarm panel pass through the IU to allow easy connection between the BDA and the fire alarm control panel (FACP). The IU can support up to 2 remote annunciators.

NFPA Public Safety Remote Annunciator	
Part Number	Description
CS19-URA-003	Universal remote annunciator Includes interface unit and one remote annunciator panel.
CS40-ANNUNC	Second remote annunciator for dual RA installations.







Donor Antennas



Donor antenna selection is an important part of an off-air BDA system. We offer a variety of donor antennas covering from VHF through 960Mhz. All are constructed to the highest standards for durability and performance.

Part Number	Description
CS03-003-430	Yagi, 11 dBi gain, public safety 700/800 (746-896) MHz, N-Type (f). Anodized aluminum design.
CS03-003-089	CSI-AY/806-960/11Yagi, 11dBi gain, 800/900 (806-960) MHz, N-Type (f). Anodized aluminum design.
CS03-003-090	CSI-AY/806-960/14 Yagi, 14dBi gain, 800/900 (806-960) MHz, N-Type (f). Anodized aluminum design.
CS03-024-836	Yagi. 7dBi, VHF band,(136-174 MHz), N female connector. Anodized aluminum design.
CS03-025-840	Yagi. 11dBi, UHF band,(406-512 MHz), N female connector. Anodized aluminum design.
CS03-777-999	Panel Donor Antenna, Low-Band, 698-940, High Isolation Wind Load: 170 MPH, 4.3-10(f)



Coverage Antennas

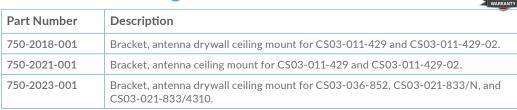


Coverage antennas include omnidirectional and directional panel antennas supporting frequencies from 600-4000 MHz.

Part Number	Description
CS03-021-833/N	Slim round omnidirectional: Supports 50W input power, 3 dBi gain, wide beamwidth, N(f), -153 dBc PIM, 600-4000 MHz.
CS03-011-429	Omnidirectional: Supports 50W input power, 2 dBi gain, wide beamwidth, N(f), flexible mounting options153 dBc PIM, 698-960 MHz and 1710-2700 MHz.
CS03-012-389	Directional Panel: Supports 50W input power, 7 dBi gain, N(f), flexible mounting options153 dBc PIM, 698-960 MHz and 1710-2700 MHz.
CS03-019-429	Economy Omnidirectional: Supports 50W input power, 2 dBi gain, wide beamwidth, N(f), flexible mounting options153 dBc PIM, 698-960 MHz and 1710-2700 MHz.
CS03-043-380	UHF Omnidirectional: Supports 50W input power, ceiling mount, low profile, 380-4000 MHz, N(f)
CS03-045-380	Directional Panel: Supports 50W inut power, panel mount, indoor/outdoor, 380-960 MHz, N(f)



Antenna Mounting Brackets







Antenna and Mounting Bracket Bundles

Part Number	Description
CS03-011-429-BK	ClearLink-O/698-2.7K/N antenna and 750-2021-001, drywall ceiling antenna mounting bracket.
CS03-021-833/N-BK	Ant-O\600-4000-Thinrnd/N(f) antenna and 750-2023-001, PVC ceiling antenna mounting bracket.



Filters, Crossband Couplers, Duplexers



Part Number	Description
CS06-766-842	Duplexer PS700/788-805&758-775/includes FirstNet [™] -N(f).
CS06-767-843	Duplexer PS800/806-824&851-869/includes FirstNet-N(f).
CS06-770-846	700-800 MHz public safety rated, cross band coupler, 150-512MHz port 1, 758-940MHz port 2 N-female connectors.
CS06-771-847	VHF-UHF public safety rated, crossband coupler, 150-174MHz port 1, 403-512MHz port 2 N-female connectors.
CS06-764-838	Public safety rated, cross band 700&800 coupler, 758-805MHz port 1, 806-869MHz port 2 N-female connectors.
CS09-172-434	800MHz passband filter passes 806-816 & 851-861MHz, rejects adjacent cellular and Sprint 800 bands.
CS09-768-845	FirstNet Notch filter passes 700 & 800MHz narrow band channels, notches Firstnet band 14.
CS48-132-633	Adapter to change between 4.3-10 to N connectors. 200 watts 4.3-10(M)/N(F), -165 dBc 0 to 6000 MHz
CS60-024-001	RF coaxial surge protector / arrestor utilizes gas tube discharge (GDT) technology, provides immediate response to a lightning surge, protecting critical hardware while maintaining the RF performance of radio equipment. N male to N female.
CS60-024-002	RF coaxial surge protector / arrestor utilizes gas tube discharge (GDT) technology, provides immediate response to a lightning surge, protecting critical hardware while maintaining the RF performance of radio equipment. N female to N female.



Public Safety Passives

Westell public safety rated passives include directional couplers, hybrid couplers, power splitters, and power tappers.

Public safety passives cover frequency ranges from 340-2700 MHz or 138-960 MHz, and offer low insertion loss and low VSWR in an IP-65 rated housing. All Westell passives include a 3-year warranty.*

Directional C	Directional Couplers (340-2700 MHz)	
Part Number	Description	
CS05-488-429	5dB directional coupler, public safety rated, 300W, N connectors (340-2700 MHz).	
CS05-489-429	6dB directional coupler, public safety rated, 300W, N connectors (340-2700 MHz).	
CS05-490-429	10dB directional coupler, public safety rated, 300W, N connectors (340-2700 MHz).	
CS05-491-429	15dB directional coupler, public safety rated, 300W, N connectors (340-2700 MHz).	
CS05-492-429	20dB directional coupler, public safety rated, 300W, N connectors (340-2700 MHz).	
CS05-493-429	30dB directional coupler, public safety rated, 300W, N connectors (340-2700 MHz).	





Public Safety Passives continued

Hybrid Couplers		
	Part Number	Description
	CS05-487-390	3dB hybrid coupler, public safety rated, 300W, N connectors, (340-2700 MHz).
	CV05-537-690	3dB hybrid coupler, public safety rated, 200W, N connectors, (138-960 MHz).



Power Splitters	(340-2700 MHz)
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Part Number	Description	
CS04-472-429	2-way power divider, public safety rated, 300W, N connectors (340-2700 MHz).	
CS04-473-429	3-way power divider, public safety rated, 300W, N connectors (340-2700 MHz).	
CS04-474-429	4-way power divider, public safety rated, 300W, N connectors (340-2700 MHz).	



Power Splitters (136-960 MHz)

Power Spilite	15 (130-900 MIDZ)	WARRAN
CS04-500-629	2-way power splitter, public safety rated, VHF-SPD2 N(f) (136-960 MHz).	
CS04-501-629	3-way power splitter, public safety rated, VHF-SPD3 N(f) (136-960 MHz).	
CS04-502-629	4-way power splitter, public safety rated, VHF-SPD4 N(f) (136-960 MHz).	



Power Tappers (138-960 MHz)

rower rappe	WARRANTY
Part Number	Description
CV05-522-614	3dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-523-614	5dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-524-614	6dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-526-614	8dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-527-614	10dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-528-614	13dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-529-614	15dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-530-614	20dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).
CV05-531-614	30dB power tapper, public safety rated, 200W, N connectors (138-960 MHz).



Power Tappers (340-2700 MHz)

15 (5-70-2700 1411 12)
Description
3dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz) .
5dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
6dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
7dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
8dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
10dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
13dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
15dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
20dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).
30dB power tapper, public safety rated, 200W, N connectors (340-2700 MHz).





Westell® RoM BoM Process

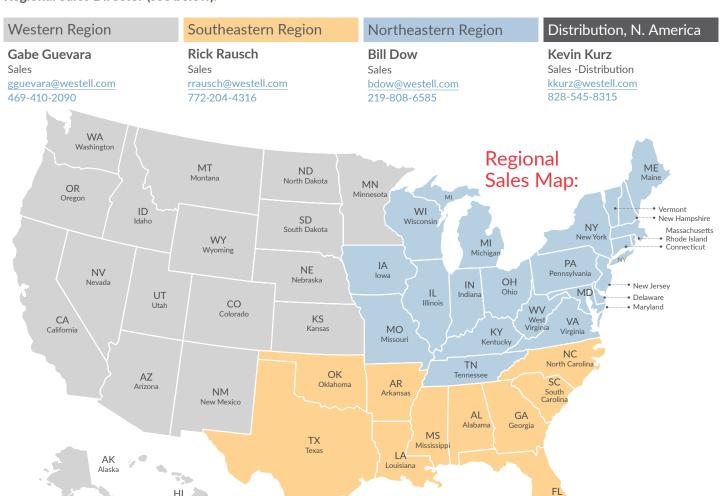
Budgetary Rough Order of Magnitude Design Process

Westell requires the customer to submit a Public Safety Design Request Form along with PDF, JPG, AutoCad, PNG or other common picture format of the floor plans for the venue building(s). Please indicate on the form the location of the MDF and IDF(s) as well as any known cable pathways. Desired Headend location, Riser for Donor and server antennas Please email IBWDesign@westell.com to obtain a copy of the Public Safety Design Request form, if needed. Typical turnaround time is 7-10 Business days, please inquire with IBWDesign@Westell.com for estimated lead time for short turn around projects. The Venue name has to be in the subject line of all email correspondents.

Our RoM Design team will begin the Budgetary Bill of Materials analysis once all materials requested are received and any unanswered questions are resolved.

Please, and send your completed materials to IBWDesign@westell.com, and copy to your Regional Sales Director (see below).







DISCLAIMER: Westell Technologies RoM tool is designed to be utilized for a budgetary design and in no way constitutes a final design. The customer is solely responsible for the final RF design and determining whether the

type of particular products and/or configuration of such products that may be recommended by Westell is adequate to achieve the customer's desired result for a wireless network. Westell makes no representations or warranties of

any nature, except those provided by our standard warranty policy, and shall not be liable, with respect to any such recommendation.

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