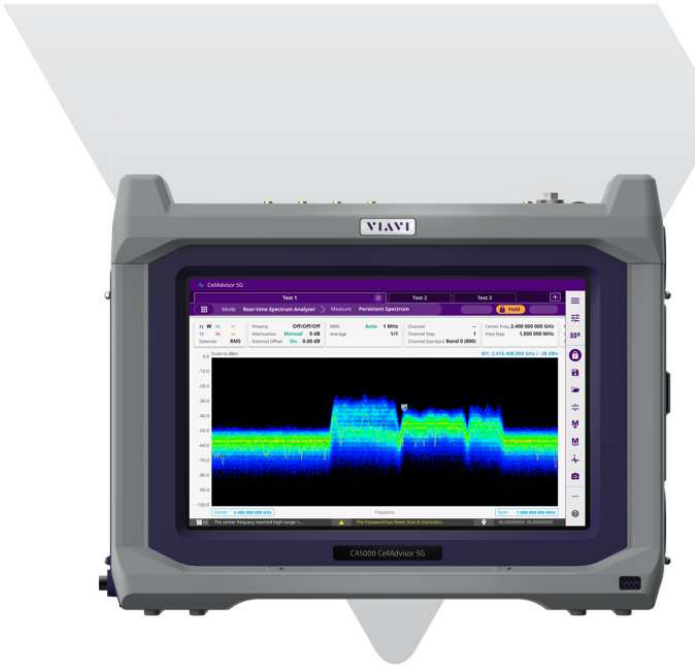

CellAdvisor™

CA5000 CellAdvisor 5G

Specification* Conditions
CA5000 specifications apply under these conditions:

- The instrument has been turned on for at least 15 minutes
- The instrument is operating within a valid calibration period
- Data with no tolerance are considered typical values
- Typical and nominal values are defined as:
  - Typical: It is performance beyond specifications that 80% of the units
  - Nominal: a general, descriptive term or parameter

*all specifications are subject to change without notice

Spectrum Analyzer (Standard)

Frequency and time specifications

Option	Frequency range	
Option F001	FR1 Band: 9 kHz to 6 GHz	
Option F002	FR1 and FR2 Band FR1 Band: 9 kHz to 6 GHz FR2 Band: 24 GHz to 40 GHz	
Frequency reference		
Accuracy	±0.05 ppm (0 to 50 ℃) + aging	
Accuracy which GPS	±25 ppb ±50 ppb	GPS lock Hold over (72 hours)
Aging	±0.5 ppm/year	
Frequency readout accuracy (start, stop, center, marker)		
	± (readout frequency x frequency reference accuracy + RBW centering + 0.5 x horizontal resolution + 2 Hz)	horizontal resolution = frequency span/trace # RBW center = 15% x RBW
Frequency span		
Range	0 Hz (zero span), 9 kHz to max frequency of each band	
Resolution	1 Hz	
Accuracy	± (2 x RBW centering + horizontal resolution)	
Sweep time readout	The time required to complete a sweep from start to finish, including tuning, data acquisition and process	
Trace update		**Nominal**
	15 trace/ sec	Span= 260 MHz RBW 100 kHz
Sweep time		**Nominal**
Range	0.4 ms to 1000 s 24 µs to 200 s	 zero span
Accuracy	±2 %	zero span
Type	Continuous, Single	
Mode	Gated sweep (requires option S015), Normal, Fast	
Trigger		
Trigger source	Free run, video, external	
Trigger delay	Range: 0 to 200 s Resolution: 6 µs	
Resolution Bandwidth (RBW)		**Nominal**
Range	1 Hz to 3 MHz	~ 3 dB bandwidth 1-3-10 sequence
Accuracy	±10%	
Video Bandwidth (VBW)		**Nominal**
Range	1 Hz to 3 MHz	~ 3 dB bandwidth 1-3-10 sequence
Accuracy	±10%	

Amplitude accuracy and range specifications

Amplitude range		
Measurement range	FR1 Band: DANL to +25 dBm	
	FR2 Band: DANL to +15 dBm	
Input attenuator range	FR1 Band: 0 to 55 dB in 5 dB steps	
	FR2 Band: 0 to 50 dB in 5 dB steps	
Preamplifier		**Nominal**
Frequency range	FR1 Band: 10 MHz to 6 GHz	
	FR2 Band: 24 GHz to 40 GHz	
Gain	FR1 Band: 20 dB	
	FR2 Band: 20 dB	
Max RF input operating level		
	FR1 Band: +25 dBm, ±50 VDC	Average CW power
	FR2 Band: +15 dBm, ±50 VDC	
Display range		
Log/Linear scale	10 divisions	
	1 to 20 dB/Division in 1 dB	
Scale units	dBm, dBV, dBmV, dBµV, V, mV, W, mW	
Reference level		
Range	-120 to +100 dBm	
Resolution	Log scale: 0.1 dB	
	Linear scale: 1 % of reference level	
Trace		
Detectors	Normal, positive peak, negative peak, sample, Average (RMS)	
Number	6	
States	Clear/write, maximum hold, minimum hold, capture, load, blank, trace math, trace info,	
Functions	Time expired maximum hold and minimum hold, trace math, trace info	
Marker		
Type	Normal, delta, delta pair, marker table	
Number	6	
Functions	Noise marker	
Marker to ->	Peak, next peak, next peak right, next peak left, min search, always peak	
	Center, start, stop	
Audio beep	Tone change with signal strength	
Marker table	Display 6 markers	
Absolute amplitude accuracy		
Preamplifier off: input signal ≥ -50 dBm, auto-coupled, 15-minute warm-up		
Preamplifier on: -90 dBm < input signal < -50 dBm, auto-coupled, 15-minute warm-up		
	FR1 Band: 1 MHz to 6 MHz ± 1.0 dB, ± 0.5 dB (T)	20 to 30 ℃
	± 2.0 dB, ± 1.2 dB (T)	-10 to 55 ℃
	FR2 Band: 24 GHz to 40 GHz ± 1.5 dB, ± 0.8 dB (T)	20 to 30 ℃
	± 3.3 dB, ± 1.5 dB (T)	-10 to 55 ℃
Input VSWR		**Nominal**
	FR1 Band: 1.8:1	@ 10 dB Attenuation
	FR2 Band: 2.5:1	

Dynamic range specifications

Displayed average noise level (DANL)		
1 Hz RBW, 1 Hz VBW, 50 Ω termination, 0 dB attenuation, RMS detector		
Preamplifier off	FR1 Band:	
	10 MHz to 3.0 GHz -143 dBm, -146 dBm (T)	
	>3.0 GHz to 4.5 GHz -140 dBm, -143 dBm (T)	
	>4.5 GHz to 6.0 GHz -135 dBm, -138 dBm (T)	
	FR2 Band:	
	24 GHz to 40 GHz -130 dBm, -135 dBm (T)	
Preamplifier on	FR1 Band:	
	10 MHz to 3.0 GHz -160 dBm, -165 dBm (T)	Preamp 1
	>3.0 GHz to 4.5 GHz -155 dBm, -160 dBm (T)	
	10 MHz to 3.0 GHz -163 dBm, -168 dBm (T)	Preamp 1 and 2
	>3.0 GHz to 4.5 GHz -161 dBm, -165 dBm (T)	
	FR2 Band:	
	24 GHz to 40 GHz -148 dBm, -153 dBm (T)	
Second harmonic distortion		
	50 MHz to 4.5 GHz < -65 dBc, typical	
	>4.5 GHz to 6.0 GHz < -75 dBc, typical	
Third-order inter-modulation (third-order intercept: TOI)		
	FR1 Band:	
	10 MHz to 3.0 GHz +9 dBm, typical	
	> 3.0 GHz to 6.0 GHz +11 dBm, typical	
	FR2 Band: +12 dBm, typical	
Spur free dynamic range		
2/3 (TOI-DANL) in 1 Hz RBW	FR1 Band: > 104 dB	@ 2 GHz
	FR2 Band: > 95 dB	@ 28 GHz
Spurious		
Inherent residual response	Input terminated, 0 dB attenuation, preamp off	
	FR1 Band: -95 dBm	
	FR2 Band: -80 dBm	
	Excepts	
Input-related Spurious	FR1 Band: < -75 dBc	Typical
	FR2 Band: < -70 dBc	Typical
LO feedthrough to input	FR1 Band: < -85 dBm	
	FR2 Band: < -47 dBm	
Single sideband (SSB) phase noise		
	FR1 Band:	@ 1 GHz
	-98 dBc/Hz, -103 dBc/Hz (T) @ 10 kHz offset	
	-105 dBc/Hz, -110 dBc/Hz (T) @ 100 kHz offset	
	-125 dBc/Hz, -130 dBc/Hz (T) @ 1 MHz offset	
	FR2 Band:	@25 GHz
	-90 dBc/Hz, -95 dBc/Hz (T) @ 10 kHz offset	
	-90 dBc/Hz, -95 dBc/Hz (T) @ 100 kHz offset	
	-110 dBc/Hz, -115 dBc/Hz (T) @1 MHz offset	

Measurements

Channel Power	Channel power
	Spectral Density
	PAR (Peak to Average Ratio)
Occupied Bandwidth	Occupied bandwidth
	Integrated power
	Occupied power
	x dB bandwidth
Spectrum Emission Mask	Reference power
	Peak level at defined range
	Reference power
	Peak level at defined range
Adjacent Channel Power	Reference power
(ACP)	Absolute power at defined frequency offset
	Relative power at defined frequency offset
Multi-ACP	Reference power at lowest defined frequency
(Adjacent Channel Power)	Reference power at highest defined frequency
	Absolute power at defined frequency offset
	Relative power at defined frequency offset
Spurious Emissions	Peak power at defined range
	Frequency of peak power at defined range
Total Harmonic Distortion	Power level at each harmonic
	% of THD
Field Strength	Field strength power at markers

RF Power Meter (Standard)

General Parameters	
Display range	-100 to +100 dBm
Offset range	0 to 60 dB
Resolution	0.01 dB or 0.1 x W (x = m, u, p)
Internal RF Power Sensor	
Frequency range	FR1 Band 10 MHz to 6 GHz
	FR2 Band 24 GHz to 40 GHz
Span	1 kHz to 100 MHz
Dynamic range	FR1 Band: -120 to +25 dBm
	FR2 Band: -120 to +15 dBm
Maximum power	FR1 Band: +25 dBm
	FR2 Band: +15 dBm
Accuracy	Same as spectrum analyzer

External RF Power Sensor (Standard, requires external RF power sensor)

General Parameters		
Display range	-100 to +100 dBm	
Offset range	0 to 60 dB	
Resolution	0.01 dB or 0.1 x W (x = m, u, p)	
Directional power sensor		
Model	JD731B	JD733A
Frequency Range	300 MHz to 3.8 GHz	150 MHz to3.5 GHz

Dynamic range	Average: 0.15 to 150 W Peak: 4 to 400 W		Average: 0.15 to 150 W Peak: 4 to 400 W
Measurement type	Forward/reverse average power, forward peak power, VSWR		
Accuracy	± (4% of reading + 0.05 W)[1,2]		
Connector Type	Type-N female on both ends		
Terminating Power Sensor			
Model	JD732B	JD734B	JD736B
Measurement type	Average	Peak	Average & Peak
Frequency Range	20 MHz to 3.8 GHz		
Dynamic range	-30 to +20 dBm		
Accuracy	±7 %[1]		
Connector Type	Type-N female		

[1]CW condition at 25 ℃ ± 10 ℃

[2]Forward power

GPS connectivity with antenna (Option S002)

GPS receiver type		
	Built-in type	
GPS time and location		
GPS information	Latitude, longitude, Satellite, Status, GPS Engine, Satellite view, ID, and C/N	
GPS time and location	Time, Latitude, and longitude on display Time, Latitude, and longitude on trace	
High-Frequency Accuracy		
GPS lock	±25 ppb	
Hold over for 3 days	±50 ppb (0 to 50 °C)	15 minutes after satellite locked
Connector	SMA, female	
Supplied antenna	SMA (m), 3.3 VDC or 5 VDC	

Bluetooth Connectivity (Option S003)

Interface type	Build-in type
Mode	Personal area network (PAN) File transfer profile (FTP)

Wi-Fi Connectivity (Option S004)

Interface type	Build-in type
Interface standard	IEEE 802.11 b/g/n
Wireless mode	Infrastructure mode
Internet protocol version	IPv4, IPv6

Real Time Spectrum Analyzer (Option S010 and S011)

Frequency range		
Option F001	FR1 Band: 9 kHz to 6 GHz	
Option F002	FR1 and FR2 Band FR1 Band: 9 kHz to 6 GHz FR2 Band: 24 GHz to 40 GHz	
Frequency Span		
Option S010	50 MHz real time	
Option S011	100 MHz real time	100 MHz step sequence
Acquisition		
IF bandwidth	50 MHz or 100 MHz	
Resolution bandwidth	30 kHz to 3 MHz	1-3-10 sequence
A/D converter	245.76 Msps, 16 bits	
FFT lengths	8192	
Maximum acquisition time	1000 ms	
Minimum IQ resolution	8.138 ns	
Probability of Intercept (POI)	125 µs	Span: 100 MHz
Spectrum display		
Trace Detectors	Normal, positive peak, negative peak, sample, Average (RMS)	
Trace number	6	
Trace states	Clear/write, maximum hold, minimum hold, capture, load, blank	
Marker Type	Normal, delta, delta pair, marker table	
Marker Number	6	
Marker to ->	Peak, next peak, next peak right, next peak left, min search, always peak Center, start, stop	
Audio beep	Tone change with signal strength	
Marker table	Display 6 markers	
Persistence spectrum display		
Spectrum processing rate	≤ Max 40,000/s	
DPX bitmap resolution	201x801	
Marker information	Frequency, amplitude, signal density	
Dwell time per step	100 ms to 100 s	
Trace processing	Color-graded bitmap, +Peak, -Peak, average	
Trace length	801	
Marker Type	Normal, delta, marker table	
Marker Number	6	
Marker to ->	Peak, next peak, next peak right, next peak left, min search, always peak Center, start, stop	
Audio beep	Tone change with signal strength	
Marker table	Display 6 markers	
Persistence spectrogram display		
Trace detection	+Peak, -Peak, Average(RMS)	
Trace length, memory depth		
Time resolution per line	100 ms to 1sec, user selectable	

Interference analyzer (S013)

Measurement		
Spectrum Analyzer	Sound indicator, interference ID, spectrum recorder	
Spectrogram	Collect up to 72 hours of data	
RSSI	Collect up to 72 hours of data	
Interference finder		
Radar Chart		
Spectrum replayer	Playback recorded data using CA5000	

Route Map (S014)

Mode	Spectrum analyzer	
Plot method	Time, position, GPS	
Plot legend	Excellent, very good, good, poor	User definable range
Map type	Outdoor (position information embedded)	Import maps using VIAVI
	Indoor (No position information embedded)	Mapcreator
Measurement item	RSSI	
	ACP	

Gated Sweep (S015)

Gate method	Gated FFT
Gated delay range	0 to 100 ms
Gated length	1 us to 100 ms
Trigger source	External, video and GPS

Channel Scanner (S016)

Frequency range	FR1 Band: 10 MHz to 6 GHz
	FR2 Band: 24 GHz to 40 GHz
Measurement range	FR1 Band: -110 to +25 dBm
	FR2 Band: -110 to +15 dBm
Measurements	Channel scanner: 1 to 20 channels
	Frequency scanner: 1 to 20 frequencies
	Customer scanner: 1 to 20 channels or frequencies

5GTF Beamforming analyzer (S040)

Frequency range	FR1 Band: 10 MHz to 6 GHz	
	FR2 Band: 24 GHz to 40 GHz	
Input signal level	FR1 Band: -75 to +25 dBm	
	FR2 Band: -75 to +15 dBm	
RX sensitivity	-90 dBm	PSS detection
Channel power accuracy	±1.0 dBm	typical
Supported bandwidth	100 MHz	
Frequency error	±10 Hz + ref freq accuracy	99% confidence level
Residual EVM (RMS)	2.0%	Typical

Measurements		
Carrier scanner	Carrier scanner bar	Up to 8 carriers
	BRSRP	
	Channel power	
	Carrier scanner summary	
	Cell ID/Beam index	
	Carrier frequency	
	Channel power	
	BRSRP	
	xPBCH EVM	
Beam analyzer	Beam analyzer bar/summary	Up to 8 beams
	Cell ID/Beam index	
	BRSRP	
	PSS-RSSI	
	BRS-SNR	
Route map	Cell ID/Beam index	
	BRSRP	
	BRS-SNR	
	PSS-RSSI	

General Information

RF In		
Connect Type	Option F001: Type-N, female	
	Option F002: K, male	
Impedance	50 Ω	Nominal
Damage level	FR1 Band: +39 dBm, ±50 VDC	Average CW power
	RF2 Band: +27 dBm, ±50 VDC	
Trigger In/Out, GPS		
Connect Type	SMA, female	
Impedance	50 Ω	Nominal
Reference Clock In/Out		
Connect Type	SMA, female	
Impedance	50 Ω	Nominal
Frequency	10 MHz, 13 MHz, 15 MHz	
Input range	-5 to +5 dBm	
USB		
USB host	Type A, 2 ports	USB2.0
USB client	Mini USB, 1 port	
	Used for SCPI programming, USBTMC, and connection to AppSW	
SFP Cage		With option O001
Port1	SFP/SFP+ compatible	
Port2	SFP/SFP+ compatible	
LAN	RJ45, 100/1000 Base-T	
LAN		
	RJ45, 1000 Base-T	
	Used for SCPI programming, remote control and connection to AppSW	

Audio Jack		
	3.5 mm headphone jack	
	Built-in speaker	
Display		
Type	10” capacitive touch screen	
Resolution	1280x800	
Power		
Connector	Rectangular DC jack	
External DC input	19 VDC	
Power consumption	Option F001 54 W	
	Option F002 64 W	
Battery		
Type	14.4 V, 6460 mA/hr (Lithium ion)	Accepts two batteries
Operating time	Option F001 standard (one battery): > 2:00 hrs	Typical
	option (two batteries): > 4:10 hrs	Typical
	Option F002 standard (one battery): > 1:40 hrs	Typical
	option (two batteries): > 3:30 hrs	Typical
	New battery with fully charged battery	
Charging time	100 % charging	
	Standard (one battery): > 2:30 hrs	
	Option (two batteries): > 4:30 hrs	
	Up to 80 % charging	
	Standard (one battery): > 1:40 hrs	
	Option (two batteries): > 3:20 hrs	
charging Temperature	0 to 45 °C (32 to 113 °F) ≤ 85% RH	
Discharging Temperature	-20 to 55 °C (4 to 131 °F) ≤ 85% RH	
Storage temperature	-20 to 60 ° C (4 to 140 °F)	
Operating temperature		
AC power	0 to 40 °C (32 to 104 °F)	Battery charging
Battery	-10 to 55 °C (14 to 131 °F)	With O001 off
	-10 to 40 °C (14 to 104 °F)	With O001 on
Storage temperature		
	-20 to 60 °C (4 to 140 °F)	
Maximum humidity		
	95% RH (noncondensing)	
Mass Memory		
Internal	Maximum 4 GB	
External	Limited by size of USB/SD flash drive	
	SD card (not supplied), size ≤ 32 Gbyte	
Data storage		
Internal	> 1000 instrument setups and traces	
External	> 5000 instrument setups and traces	
Environmental		
Vibration		
	MIL-PRF-28800F Class 2	
Shock		
	MIL-PRF-28800F	
Bench handling		
	MIL-PRF-28800F	
Transit drop		
	MIL-PRF-28800F Class 2	

EMC	
	IEC/EN 61326-1:2006 (complies with European EMC) ISPR11:2009 +A1:2010
ESD	
	IIEC/EN 61000-4-2
Size and Weight (standard configuration)	
Weight (with one battery)	Option F001: < 5.9 kg (13.00 lb.) Option F002: < 6.2 kg (13.66 lb.)
Size (W x H x D)	309mm X 241mm X 113mm with top bumper 309mm X 225mm X 113mm without top bumper
Warranty	
	3 years
Recommended calibration cycle	
	1 year

Ordering Information

Part number	Description	Note
CA5000	CellAdvisor 5G Includes: Spectrum analyzer, RF power meter	Requires F001 or F002
Frequency range		
CA5000-F001	Frequency for FR1 up to 6 GHz	
CA5000-F002	Frequency for FR1 up to 6 GHz and FR2 up to 40 GHz	
CA5000-FU02	Frequency upgrade to FR2 from option F001	
Additional internal hardware		
CA5000-O001	Optic hardware	
CA5000-OU01	Upgrade optic hardware	Requires factory return
Bandwidth range		
CA5000-B100	100 MHz/100 MHz analysis bandwidth	
Options		
CA5000-S002	GPS connectivity with antenna	
CA5000-S003	Bluetooth connectivity	
CA5000-S004	Wi-Fi connectivity	
CA5000-S010	50 MHz bandwidth real time spectrum analyzer	
CA5000-S011	100 MHz bandwidth real time spectrum analyzer	Requires B100
CA5000-S013	Interference analyzer	
CA5000-S014	Route map	
CA5000-S015	Gated Sweep	
CA5000-S016	Channel Scanner	
CA5000-S040	5GTF beamforming analyzer	Requires B100

Optional accessories

Accessory - RF Cables	
G700050530	RF cable DC to 8 GHz Type-N(m) to Type-N(m), 1.0 m
G700050531	RF cable DC to 8 GHz Type-N(m) to Type-N(f), 1.5 m
G700050532	RF cable DC to 8 GHz Type-N(m) to Type-N(f), 3.0 m
G710050533	RF cable DC to 18 GHz Type-N(m) to SMA(m), 1.5 m
G710050534	RF cable DC to 18 GHz Type-N(m) to QMA(m), 1.5 m
G710050535	RF cable DC to 18 GHz Type-N(m) to SMB(m),1.5 m
G710050536	RF cable DC to 6 GHz Type-N(m) to DIN(f), 1.5 m
G710050537	RF cable DC to 4 GHz Type-N(m) to 1.0/2.3 (m), 1.5 m
G700050540	Phase-stable RF cable w grip DC to 6 GHz Type-N(m) to Type-N(f), 1.5 m
G700050541	Phase-stable RF cable w grip DC to 6 GHz Type-N(m) to DIN(f), 1.5 m
G710050531	RF cable DC to 18 GHz Type-N(m) to Type-N(f), 1.5 m
G700050550	RF cable DC to 40 GHz, K(m) to K(m), 0.6 m
G700050551	RF cable DC to 40 GHz, K(m) to K(f), 0.8 m
Accessory - RF Antennas	
G700050340	RF omni antenna Type-K (f), 26 GHz to 40 GHz
G700050353	RF omni antenna Type-N(m), 806 to 896 MHz
G700050354	RF omni antenna Type-N(m), 870 to 960 MHz
G700050355	RF omni antenna Type-N(m), 1710 to 2170 MHz
G700050356	RF omni antenna Type-N(m), 720 to 800 MHz
G700050357	RF omni antenna Type-N(m), 2300 to 2700 MHz
G700050363	RF yagi antenna Type-N(f), 1750 to 2390 MHz, 10.2 dBd
G700050365	RF yagi antenna Type-N(f), 866 to 960 MHz, 9.8 dBd
G700050366	RF yagi antenna SMA(f), 700 to 4000 MHz, 1.85 dBd

G700050367	RF yagi antenna SMA(f), 700 to 6000 MHz, 2.85 dBd
G700050370	RF directional horn antenna kit, K(f), 26.5 GHz to 40 GHz, 15 dBi
G700050390	GPS SMA mount antenna
Accessory - RF Adapters (Connector & Adapters)	
G700050572	Adapter DIN(m) to DIN(m), DC to 7.5 GHz, 50 ohm
G700050573	Adapter Type-N(m) to SMA(f) DC to 18 GHz, 50 ohm
G700050574	Adapter Type-N(m) to BNC(f), DC to 4 GHz, 50 ohm
G700050575	Adapter Type-N(f) to Type-N(f), DC to 18 GHz 50 ohm
G700050576	Adapter Type-N(m) to DIN(m), DC to7.5 GHz, 50 ohm
G700050577	Adapter Type-N(f) to DIN(f), DC to 7.5 GHz, 50 ohm
G700050578	Adapter Type-N(f) to DIN(m), DC to 7.5 GHz, 50 ohm
G700050579	Adapter DIN(f) to DIN(f), DC to 7.5 GHz, 50 ohm
G700050580	Adapter Type-N(m) to Type-N(m), DC to 11 GHz 50 ohm
G700050581	Adapter N(m) to QMA(f), DC to 6.0 GHz, 50 ohm
G700050582	Adapter N(m) to QMA(m), DC to 6.0 GHz, 50 ohm
G700050583	Adapter N(m) to 4.1/9.5 MINI DIN (f), DC to 6.0 GHz, 50 ohm
G700050584	Adapter N(m) to 4.1/9.5 MINI DIN (m), DC to 6.0 GHz, 50 ohm
G700050585	Adapter N(m) to 4.3-10 (f), DC to 6.0 GHz, 50 ohm
G700050586	Adapter N(m) to 4.3-10 (m), DC to 6.0 GHz, 50 ohm
G700050587	Adapter N(f) to SMA (f), DC to 18 GHz, 50 ohm
Accessory - RF Filters	
G700050601	Bandpass filter 696 MHz to 716 MHz, N(m) to N(f), 50 ohm
G700050602	Bandpass filter 776 MHz to 788 MHz, N(m) to N(f), 50 ohm
G700050603	Bandpass filter 806 MHz to 849 MHz, N(m) to N(f), 50 ohm
G700050604	Bandpass filter 1710 MHz to 1755 MHz, N(m) to N(f), 50 ohm
G700050605	Bandpass filter 1850 MHz to 1910 MHz, N(m) to N(f), 50 ohm
Accessory - RF Power Sensors	
JD731B	Directional power sensor (peak and average power) 300 to 3800 MHz
JD732B	Terminating power sensor (Average Power) 20 to 3800 MHz
JD733A	Directional power sensor (peak and average power) 150 to 3500 MHz
JD734B	Terminating power sensor (peak power) 20 to 3800 MHz
JD736B	Terminating power sensor (average/peak power) 20 to 3800 MHz
Accessory - RF Miscellaneous	
G710050581	Attenuator 40 dB, 100 W, DC to 4 GHz (unidirectional)
G710050585	RF directional coupler, 700 to 4000 MHz, 30 dB, 50 W Input/output; Type-N(m) to Type-N(f), tap off; Type-N(f)
G710050586	RF combiner, 700 to 4000 MHz, Type-N(f) to Type-N(m)
G710050587	4x1 RF combiner, 700 to 4000 MHz, Type-N(f) to Type-N(m)
Accessory - General	
G700050431	CellAdvisor 5G soft carrying case
G700050150	98 Wh Lithium-Ion Battery