

MR52

Dual-band 802.11ac Wave 2 access point with separate radios dedicated to security, RF management, and Bluetooth



High performance 802.11ac Wave 2 wireless

The Cisco Meraki MR52 is a cloud-managed 4x4:4 802.11ac Wave 2 access point with 160 MHz channels and MU-MIMO support. Designed for next-generation deployments in offices, schools, hospitals, shops, and hotels, the MR52 offers high performance, enterprise-grade security, and simple management.

The MR52 provides a maximum of 2.5 Gbps* aggregate frame rate with concurrent 2.4 GHz and 5 GHz radios. A dedicated third radio provides real-time WIDS/WIPS with automated RF optimization, and a fourth integrated radio delivers Bluetooth Low Energy (BLE) scanning and Beaconing.

With the combination of cloud management, high perfomance hardware, multiple radios, and advanced software features, the MR52 makes an oustanding platform for the most demanding of uses - including high-density deployments and bandwidh or performanceintensive applications like voice and high-definition video.

MR52 and Meraki cloud management: A powerful combo

Management of the MR52 is through the Meraki cloud, with an intuitive browser-based interface that enables rapid deployment without time-consuming training or costly certifications. Since the MR52 is self-configuring and managed over the web, it can be deployed at a remote location in a matter of minutes, even without on-site IT staff.

24x7 monitoring via the Meraki cloud delivers real-time alerts if the network encounters problems. Remote diagnostic tools enable imediate troubleshooting over the web so that distributed networks can be managed with a minimum of hassle.

The MR52's firmware is automatically kept up to date via the cloud. New features, bug fixes, and enhancements are delivered seamlessly over the web. This means no manual software updates to download or missing security patches to worry about.

Product Highlights

- 4x4 160 MHz MU-MIMO 802.11ac Wave 2
- 2.5 Gbps dual-radio aggregate frame rate
- 24x7 real-time WIDS/WIPS and spectrum analytics via dedicated third radio
- Integrated Bluetooth Low Energy Beacon and scanning radio
- Enhanced transmit power and receive sensitivity

- Full-time WiFi location tracking via dedicated 3rd radio
- Integrated enterprise security and guest access
- Application-aware traffic shaping
- · Optimized for voice and video
- Self-configuring, plug-and-play deployment
- · Sleek, low-profile design blends into office environments

Features

Dual-radio aggregate frame rate of up to 2.5 Gbps*

A 5 GHz 4x4:4 radio supporting 160 MHz channel widths and a 2.4 GHz 4x4:4 radio supporting 40 MHz channel widths offer a combined dual-radio aggregate frame rate of 2.5 Gbps*, with up to 1,733 Mbps in the 5 GHz band thanks to 802.11ac Wave 2 and 800 Mbps in the 2.4 GHz band. Technologies like transmit beamforming and enhanced receive sensitivity allow the MR52 to support a higher client density than typical enterprise-class access points, resulting in fewer APs for a given deployment.

Multi User Multiple Input Multiple Output (MU-MIMO)

With support for the 802.11ac Wave 2 standard, the MR52 offers MU-MIMO for more efficient transmission to multiple clients. Especially suited for enviroments with numerous mobile devices, MU-MIMO enables multiple clients to receive data simultanously. This increases the total network perfomance and the improves the end user experience.

Link Aggregation

The two Ethernet uplinks on the MR52 can be configured for link aggregation, which relieve any existing uplink bottlenecks created by 802.11ac Wave 2.

Bluetooth Low Energy Beacon and scanning radio

An integrated fourth radio for Bluetooth Low Energy (BLE) provides seamless deployment of BLE Beacon functionality and effortless visibility of BLE devices. The MR52 enables the next generation of location-aware applications while futureproofing your deployment, ensuring it's ready for any new customer engagement strategies.

Automatic cloud-based RF optimization

The MR52's sophisticated and automated RF optimization means that there is no need for the dedicated hardware and RF expertise typically required to tune a wireless network. The RF data collected by the dedicated third radio is continuously fed back to the Meraki cloud. This data is then used to automatically tune the channel selection, transmit power, and client connection settings for optimal performance under even the most challenging RF conditions.

Integrated enterprise security and guest access

The MR52 features integrated, easy-to-use security technologies to provide secure connectivity for employees and guests alike. Advanced security features such as AES hardware-based encryption and WPA2-Enterprise authentication with 802.1X and Active Directory integration provide wire-like security while still being easy to configure. One-click guest isolation provides secure, Internet-only access for visitors. PCI compliance reports check network settings against PCI requirements to simplify secure retail deployments.

Third radio delivers 24x7 wireless security and RF analytics

The MR52's dedicated dual-band scanning and security radio continually assesses the environment, characterizing RF interference and containing wireless threats like rogue access points. There's no need to choose between wireless security, advanced RF analysis, and serving client data - a dedicated third radio means that all functions occur in real-time, without any impact to client traffic or AP throughput.

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Meraki Systems Manager natively integrates with the MR52 to offer automatic, context-aware security. You can use Systems Manager's self-service enrollment to rapidly deploy MDM without installing additional equipment, and then dynamically tie firewall and traffic shaping policies to client posture.

Application-aware traffic shaping

The MR52 includes an integrated layer 7 packet inspection, classification, and control engine, enabling you to set QoS policies based on traffic type. Prioritize your mission critical applications while setting limits on recreational traffic like peer-to-peer and video streaming. Policies can be implemented per network, per SSID, per usergroup, or per individual user for maximum flexibility and control.

Voice and video optmizations

Industry standard QoS features are built in and easy to configure. Wireless Multi Media (WMM) access categories, 802.1p, and DSCP standards support all ensure important applications get priorotized correctly, not only on the MR52, but on other devices in your network. Unscheduled Automatic Power Save Delivery (U-APSD) ensures minimal battery drain on wireless VoIP phones.

Self-configuring, self-maintaining, always up-to-date

When plugged in, the MR52 automatically connects to the Meraki cloud, downloads its configuration, and joins the appropriate network. If new firmware is required, this is retireved by the AP and updated automatically. This ensures the network is kept up-to-date with bug fixes, security updates, and new features.

Advanced analytics

Drill down into the details of your network usage with highly granular traffic analytics. Extend your visibility into the physical world with journey tracking through location analytics. View vistor numbers, dwell time, repeat visit rates, and track trends. Fully customize your analysis with raw data available via simple APIs.

* Refers to maximum over-the-air data frame rate capability of the radio chipset, and may exceed data rates allowed by IEEE 802.11ac-compliant operation.

Specifications

Radios

2.4 GHz 802.11b/g/n client access radio

5 GHz 802.11a/n/ac client access radio

2.4 GHz & 5 GHz dual-band WIDS/WIPS, spectrum analysis, & location analytics radio 2.4 GHz Bluetooth Low Energy (BLE) radio with Beacon and BLE scanning support

Concurrent operation of all four radios

Supported frequency bands (country-specific restrictions apply): 2.412-2.484 GHz 5.150-5.250 GHz (UNII-1) 5.250-5.350 GHZ (UNII-2) 5.470-5.600, 5.660-5.725 GHz (UNII-2e) 5.725 -5.825 GHz (UNII-3)

Antenna

Integrated omni-directional antennas (5.5 dBi gain @ 2.4 GHz, 6.2 dBi gain @ 5 GHz) Individual antenna elements for each radio

802.11ac Wave 2 and 802.11n Capabilities

4 x 4 multiple input, multiple output (MIMO) with four spatial streams

SU-MIMO and MU-MIMO support

Maximal ratio combining (MRC) & beamforming

20 and 40 MHz channels (802.11n); 20, 40, 80, and 160 MHz channels (802.11ac)

Up to 256-QAM on both 2.4 GHz & 5 GHz bands

Packet aggregation

Power

Power over Ethernet: 37 - 57 V (802.3at required; functionality-restricted 802.3af mode supported)

Alternative 12 V DC input

Power consumption: 21W max (802.3at)

Power over Ethernet injector and DC adapter sold separately

Interfaces

2x 10/100/1000 BASE-T Ethernet (RJ45)

1x DC power connector (5.5 mm x 2.5 mm, center positive)

Mounting

All standard mounting hardware included

Desktop, ceiling, and wall mount capable

Ceiling tile rail (9/16, 15/16 or 1 ½" flush or recessed rails), assorted cable junction boxes

Bubble level on mounting cradle for accurate horizontal wall mounting

Physical Security

Two security screw options (included)

Kensington lock hard point

Concealed mount plate with anti-tamper cable bay

Environment

Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)

Humidity: 5 to 95% non-condensing

Physical Dimensions

10.56" x 6.38" x 1.58" (268.2 mm x 162.0 mm x 38.8 mm), not including deskmount feet or mount plate

Weight: 28.9 oz (820g)

Security

Integrated Layer 7 firewall with mobile device policy management

Real-time WIDS/WIPS with alerting and automatic rogue AP containment with Air Marshal

VLAN tagging (802.1q) and tunneling with IPsec VPN

Flexible guest access with device isolation

PCI compliance reporting

WEP, WPA, WPA2-PSK, WPA2-Enterprise with 802.1X

EAP-TLS, EAP-TTLS, EAP-MSCHAPv2, EAP-SIM

TKIP and AES encryption

Enterprise Mobility Management (EMM) & Mobile Device Management (MDM) integration

Cisco ISE integration for Guest access and BYOD Posturing

Quality of Service

Advanced Power Save (U-APSD)

WMM Access Categories with DSCP and 802.1p support

Layer 7 application traffic identification and shaping

Mobility

PMK, OKC, & 802.11r for fast Layer 2 roaming

Distributed or centralized layer 3 roaming

Analytics

Embedded location analytics reporting and device tracking

Global L7 traffic analytics reporting per network, per device, & per application

Warranty

Lifetime hardware warranty with advanced replacement included

Ordering Information

MR52-HW: Meraki MR52 Cloud Managed 802.11ac AP

MA-PWR-30W-XX: Meraki AC Adapter for MR Series (XX = US/EU/UK/AU)

MA-INJ-4-XX: Meraki 802.3at Power over Ethernet Injector (XX = US/EU/UK/AU)

Note: Meraki access point license required.

Compliance & Standards

IEEE Standards	
802.11b	
802.11g	
802.11a	
802.11n	
802.11ac	
802.11h	
802.11i	
802.11e	
802.11k	
802.11r	

Safety Approvals
UL 60950-1
CAN/CSA-C22.2 No. 60950-1
IEC 60950-1
EN 60950-1
UL 2043 (Plenum Rating)
Radio Approvals
FCC Part 15C, 15E
RSS-247 (Canada)
EN 300 328, EN 301 893 (Europe)
AS/NZS 4268 (Australia/NZ)
NOM-121 (Mexico)
NCC LP0002 (Taiwan)
For additional country-specific regulatory information,
please contact Meraki sales
EMI Approvals (Class B)

FCC Part 15B				
ICES-003 (Canada)				
EN 301 489-1-17, EN 55032, EN 55024 (Europe)				
CISPR 22 (Australia/NZ)				
VCCI (Japan)				
Exposure Approvals				
FCC Part 2				
RSS-102 (Canada)				

EN 50385, EN 62311, EN 62479 (Europe)

AS/NZS 2772 (Australia/NZ)









RF Performance Table

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
2.4 GHz	802.11b	1 Mb/s	19 dBm	-98 dBm
		2 Mb/s	19 dBm	-93 dBm
		5.5 Mb/s	19 dBm	-92 dBm
		11 Mb/s	19 dBm	-87 dBm
	802.11g	6 Mb/s	19 dBm	-92 dBm
		9 Mb/s	19 dBm	-91 dBm
2.4 GHz		12 Mb/s	18 dBm	-90 dBm
		18 Mb/s	18 dBm	-88 dBm
		24 Mb/s	18 dBm	-85 dBm
		36 Mb/s	18 dBm	-82 dBm
		48 Mb/s	17 dBm	-76 dBm
		54 Mb/s	17 dBm	-75 dBm
2.4 GHz	802.11n (HT20)	MCS0/8/16	19/22/23/27 dBm	-92/-95/-96/-98 dBm
		MCS1/9/17	18/21/22/24 dBm	-88/-91/-92/-94 dBm
		MCS2/10/18	18/21/22/24 dBm	-86/-89/-90/-92 dBm
		MCS3/11/19	17/20/21/23 dBm	-82/-85/-86/-88 dBm
		MCS4/12/20	17/20/21/23 dbm	-80/-83/-84/-86 dBm
		MCS5/13/21	16/19/20/25 dBm	-75/-78/-79/-81 dBm
		MCS6/14/22	15/18/19/21 dBm	-73/-76/-77/-79 dBm
		MCS7/15/23	15/18/19/21 dBm	-72/-75/-76/-78 dBm

RF Performance Table

Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz	802.11a	6 Mb/s	20 dBm	-91 dBm
		9 Mb/s	20 dBm	-90 dbm
		12 Mb/s	20 dBm	-89 dbm
		18 Mb/s	20 dBm	-87 dBm
		24 Mb/s	19 dBm	-80 dBm
		36 Mb/s	19 dBm	-77 dBm
		48 Mb/s	18 dBm	-75 dBm
		54 Mb/s	18 dBm	-74 dBm
	802.11n (HT20)	MCS0/8/16	20/23/24 dBm	-91/-94/-95 dBm
		MCS1/9/17	20/23/24 dBm	-88/-91/-92 dBm
		MCS2/10/18	20/23/24 dBm	-85/-88/-89 dBm
5 GHz		MCS3/11/19	20/23/24 dBm	-82/-85/-86 dBm
5 GHz		MCS4/12/20	19/22/23 dBm	-78/-81/-82 dBm
		MCS5/13/21	19/22/23 dBm	-74/-77/-78 dBm
		MCS6/14/22	18/21/22 dBm	-71/-74/-75 dBm
		MCS7/15/23	17/20/21 dBm	-72/-75/-76 dBm
5 GHz	802.11n (HT40)	MCS0/8/16	20/23/24 dBm	-88/-91/-92 dBm
		MCS1/9/17	20/23/24 dBm	-85/-88/-89 dBm
		MCS2/10/18	20/23/24 dBm	-83/-86/-87 dBm
		MCS3/11/19	20/23/24 dBm	-79/-82/-83 dBm
		MCS4/12/20	19/22/23 dBm	-76/-79/-80 dBm
		MCS5/13/21	19/22/23 dBm	-73/-76/-77 dBm
		MCS6/14/22	18/21/22 dBm	-72/-75/-76 dBm
		MCS7/15/23	17/20/21 dBm	-70/-73/-74 dBm

RF Performance Table

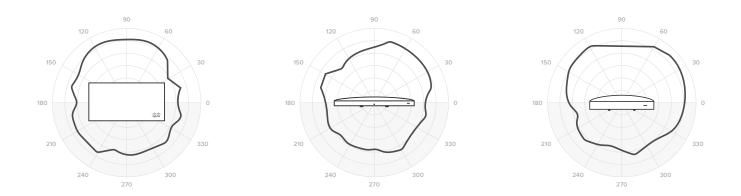
Series MCS0/000 20023/226 dBm 99/94/98/97 dBm Series MCS0/010 20023/226 dBm 98/94/93/94 dBm Series 39/92/102 20023/226 dBm 98/94/93/94 dBm Series 20023/226 dBm 98/94/93/94 dBm 98/94/93/94 dBm Series 20023/226 dBm 97/94/75/48 dBm MCS56/666 102/2222 dBm 77/14/75/72 dBm MCS66/666 102/2224 dBm 77/77/72 dBm MCS70777 109/02/02 dBm 62/65/66-68 dBm MCS70777 109/02/02 dBm 62/65/67-22 dBm MCS90999 15/89/92/16Bm 62/65/67-22 dBm MCS202210 200224/26 dBm 89/93/94 dBm MCS20/000 15/89/92/16Bm 63/96/97/92 dBm MCS20/001 200224/26 dBm 98/93/94 dBm MCS20/002 200224/26 dBm 75/79/74 dBm MCS20/001 109/02022 dBm 79/77/74 dBm MCS20/001 109/02022 dBm 70/77/74 dBm MCS20/001 200224/26 dBm 79/97/74 dBm MCS20/002 200224/26 dBm 79/97/77 dBm </th <th>Operating Band</th> <th>Operating Mode</th> <th>Data Rate</th> <th>TX Power</th> <th>RX Sensitivity</th>	Operating Band	Operating Mode	Data Rate	TX Power	RX Sensitivity
5 GHz 30232426 dBm 30232426 dBm 3285 88.88 dBm 5 GHz 8021tic (VHT20) MCS33373 91022222 dBm 328.98 88.88 dBm MCS35955 91222222 dBm 74777380 0 dBm 74777380 0 dBm MCS36956 9122222 dBm 74777380 0 dBm MCS69696 9122222 dBm 74777380 0 dBm MCS697077 17202123 dBm 664 670.75 dBm MCS690900 20224742 dBm 86787737 MCS90900 2022424 dBm 86787737 MCS1011 2022242 dBm 8984974 dBm MCS102222 20224242 dBm 8984974 dBm MCS1011 2022242 dBm 779.767.76 dBm MCS102222 2022424 dBm 779.767.77 dBm MCS1011 1922222 dBm 779.777.77 dBm MCS1022221 2022424 dBm 779.767.77 dBm MCS1011 1922222 dBm 779.777.78 dBm MCS1011 1922222 dBm 779.777.77 dBm MCS1011 1922222 dBm 779.777.78 dBm MCS1014 1922222 dBm 779.767.777 MCS1014			MCS0/0/0/0	20/23/24/26 dBm	-91/-94/-95/-97 dBm
FehrAccessionConstraintsConstraintsConstraintsConstraintsConstraints5 GHz802.1bc (VHT20)MCS36323CONSTRAINTSCONSTRAINTSCONSTRAINTSCONSTRAINTS6 GHz100.100100.100CONSTRAINTSCONSTRAINTSCONSTRAINTSCONSTRAINTS6 GHz100.100100.100CONSTRAINTSCONSTRAINTSCONSTRAINTSCONSTRAINTSCONSTRAINTS6 GHz100.100100.100CONSTRAINTSCONSTRAINTSCONSTRAINTS			MCS1/1/1/1	20/23/24/26 dBm	-88/-91/-92/-94 dBm
Beachair Bacchair MCS44444 99/22/32 6 dm 97/84/82/84 cdm MCS56655 92/22/32 6 dm 74/77/78-00 dm 74/77/78-00 dm MCS66666 19/22/22 dm 71/17/178-00 dm 71/174/78-77 MCS686666 19/22/22 dm 66/69-70/72 dm 66/69-70/72 dm MCS90000 20/22/42 dm 66/69-70/72 dm 66/89-70/72 dm MCS90000 20/22/42 dm 67/856666 dm 68/88-89/91 dm MCS90000 20/22/42 dm 63/86.67/91 dm 66/89-70/72 dm MCS90000 20/22/42 dm 63/86.67/91 dm 67/8568/86 MCS90000 20/22/42 dm 72/97/791 dm 72/97 MCS90000 20/22/42 dm 72/97/791 dm 72/97/791 dm MCS90000 19/22/22 dm 72/97/791 dm 72/97/791 dm MCS90000 19/22/22 dm 72/97/791 dm 72/97/791 dm MCS90000 19/22/22 dm 72/97/791 dm 72/97/791 dm MCS90000 20/22/42 dm 60/63/64/64 dm 72/97/791 dm MCS90000 20/22/22 dm 73/97/791 dm 73/97/791 dm <td></td> <td></td> <td>MCS2/2/2/2</td> <td>20/23/24/26 dBm</td> <td>-85/-88/-89/-91 dBm</td>			MCS2/2/2/2	20/23/24/26 dBm	-85/-88/-89/-91 dBm
5 GHz 802.1bc (M120) MCS5.656/5 91/22/23/2 GB -74/77/84-80 dB MCS5.0567/6 19/22/23/2 GB -74/77/784-80 dB -74/74/78-77 dBm MCS5.057/77 17/702/22 dB -74/74/78-76/78 dBm -74/74/78-76/78 dBm MCS8.08/80 15/19/22/24 dBm -74/74/78-76/78 dBm MCS8.09/90 15/19/92/1 dBm 462/65/66/67 dBm MCS9.09/90 15/19/92/1 dBm 462/65/66/68 dBm MCS9.01/01 20/22/47/6 dBm -74/77/78/48/dBm MCS9.01/21 20/22/47/6 dBm -74/77/78/48/dBm MCS9.01/21 20/22/47/6 dBm -74/78/78/08/24 dBm MCS9.01/21 20/22/22/25 dBm -74/78/78/08/24 dBm MCS9.01/21 19/22/23/25 dBm -74/78/78/08/24 dBm MCS9.01/21 19/22/23/25 dBm -74/76/77/79/80/82 dBm MCS9.01/21 19/22/23/25 dBm -74/76/77/79/87/80/82 dBm MCS9/01/21 19/22/22			MCS3/3/3/3	20/23/24/26 dBm	-82/-85/-86/-88 dBm
Select MCSSR16/5 1922/2323 dBm 74/47/78/40 dBm MCS66666 MCS66666 MS212/21/4 dBm 72/15/7 r6 mm MCS870777 MT70202123 dBm 72/15/7 r6 r6 mm MCS879919 15/819/21 dBm 66/64/70.72 dBm MCS89919 15/819/21 dBm 66/24/70.72 dBm MCS90100 20223/24 dBm 85/49/24.94 dBm 88/419/22.94 dBm 85/49/24.94 dBm 85/49/24.94 dBm MCS90100 20223/24 dBm 85/49/24.94 dBm MCS91011 20223/24.92 dBm 85/49/24.94 dBm MCS91014 19/22/232 dBm 72/75/76/77.94 dBm MCS91014 19/22/232 dBm 72/75/76/77.94 dBm MCS91016 19/22/232 dBm 72/75/76/77.94 dBm MCS91017 19/22/232 dBm 72/75/76/76 dBm MCS91017 19/22/232 dBm 72/75/76/77.79 dBm MCS91017 20223/24 dBm 73/76/77.79 dBm MCS91019 19/21/22/24 dBm 63/64/67/69 dBm MCS91019 20223/24/26 dBm 63/64/67/69 dBm MCS91019 20223/24/26 dBm 63/64/67/69 dBm	5 GHz	802 11ac (V/HT20)	MCS4/4/4/4	19/22/23/25 dBm	-78/-81/-82/-84 dBm
Scher MCS3/777 9720/2123 dbm 972/75/76/78 dbm MCS8/8/8/8 16/19/20/22 dbm 6-66/49/70/72 dbm 6-66/49/70/72 dbm MCS9/9/9/9 15/18/19/21 dbm 6-86/49/70/72 dbm 6-86/49/70/72 dbm MCS9/9/9/9 15/18/19/21 dbm 6-86/49/70/72 dbm 6-86/49/70/72 dbm MCS0/0/00 20/232/426 dbm 6-81/49/94 dbm 6-81/49/94 dbm Scher 89/94/24/84 dbm 6-81/49/94 dbm 6-81/49/94 dbm MCS3/3/33 20/23/24/26 dbm 6-81/49/94 dbm 77/79/80/82 dbm Scher 89/94/24/84 bbm 77/79/80/82 dbm 77/79/80/82 dbm 77/79/80/82 dbm MCS3/3/33 19/22/22/26 dbm 73/76/77/79 dbm 6-81/40/77 6-81/40/74/76 dbm MCS56/66/6 18/22/22/24 dbm 77/75/76/78 dbm 6-81/40/74/76 dbm 6-81/40/74/76 dbm MCS56/97/7 16/10/20/22 dbm 6-81/40/74/76 dbm 6-81/40/74/76 dbm 6-81/40/74/76 dbm MCS59/99/9 16/18/10/21 dbm 6-81/40/74/76 dbm 6-81/40/74/76 dbm 6-81/40/74/76 dbm MCS56/57/5 19/22/22/26 dbm 81/44/48/57 dbm 6-81/40/74/76 dbm </td <td>5 6112</td> <td rowspan="3">802.11dC (VH120)</td> <td>MCS5/5/5/5</td> <td>19/22/23/25 dBm</td> <td>-74/-77/-78/-80 dBm</td>	5 6112	802.11dC (VH120)	MCS5/5/5/5	19/22/23/25 dBm	-74/-77/-78/-80 dBm
Image: constraint of the second sec			MCS6/6/6/6	18/21/22/24 dBm	-71/-74/-75/-77 dBm
Shift			MCS7/7/7/7	17/20/21/23 dBm	-72/-75/-76/-78 dBm
Big MCS0/00/0 20/23/24/26 dBm -88/-91/-32/-34 dBm SGHz 20/23/24/26 dBm -68/-88/-90/-91 dBm B02.71ac (VHT40) MCS3/23/3 20/23/24/26 dBm -76/-79/80/82 dBm MCS3/23/3 20/23/24/26 dBm -76/-79/80/82 dBm -76/-79/80/82 dBm MCS3/23/3 20/22/22 dBm -76/-79/80/82 dBm -76/-79/80/82 dBm MCS4/4/4/44 19/22/23 dBm -76/-79/80/82 dBm -76/-79/80/82 dBm MCS5/5/5/5 19/22/23 dBm -73/-76/-77/-79 dBm -73/-76/-77/-79 dBm MCS8/8/8/8 19/22/23 dBm -70/-73/-70/-78 dBm -63/-66/-66 MCS8/9/9/9 15/16/19/20/23 dBm -70/-73/-70/-78 dBm -63/-66/-67/-69 dBm MCS9/9/9/9 15/16/19/20/23 dBm -70/-73/-76/-78 dBm -70/-73/-76/-78 dBm MCS9/9/9/9 15/16/19/20/23 dBm -63/-64/-66/F6 -63/-64/-66 MCS9/9/9/9 15/16/19/20/23 dBm -70/-73/-76/-78 dBm -70/-73/-76/-78 dBm MCS9/9/9/9 15/16/19/20/23 dBm -70/-73/-76/-78 dBm -70/-73/-79/-76/-78 dBm MCS9/9/9/9 15/16/19/20/23 dBm -70/-73/-76/-78 dBm -70/-73/-76/-			MCS8/8/8/8	16/19/20/22 dBm	-66/-69/-70/-72 dBm
FGH2 8802.11ac (VHT40) 880.888.88 880.888.98 880.889.91 dBB FGH2 FGH2 FGH2 8802.11ac (VHT80) 880.888.81 880.888.81 880.889.91 dBB FGH2 FGH2 FGH2 890.21ac (VHT80) 880.888.81 800.828.81 880.838.81 880.838.81 880.838.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81 890.81.81			MCS9/9/9/9	15/18/19/21 dBm	-62/-65/-66/-68 dBm
5 GHz 80211cr (VHT40) MCS2/22 20/22/24/26 dBm 6-8/3-68/-37/49 dBm 6 GHz 80211cr (VHT40) MCS3/3/3 20/32/26 dBm 7-9/-82/-83/-85 dBm 6 GHz 80211cr (VHT40) MCS3/3/3 20/22/22/25 dBm 7-9/-82/-83/-85 dBm 6 GHz 80211cr (VHT40) MCS5/5/5/5 19/22/23/25 dBm 7-9/-70/-70/-70/-70 6 GHz 16/12/22/4 dBm 7-9/-73/-74/-76 dBm 7-6/-79/-80/-82 dBm 7-6/-79/-80/-82 dBm 6 GHz 16/12/22/24 dBm 7-7/-73/-74/-76 dBm 7-6/-79/-70/-74/-74 dBm 6-6/-66/-66/-69 dBm 7 GHz 16/19/2022 dBm 6-6/-66/-69/-69 6-8/-60/-69/-69 6-8/-60/-69/-69 802.11cr (VHT80) MCS9/00/00 20/23/24/26 dBm 7-9/-82/-83/-88 6-8/-70/-70/-70/-70/-70/-70/-70/-70 802.11cr (VHT80) MCS3/23/3 20/23/24/26 dBm 7-9/-82/-83/-86 7-9/-82/-83/-86 MCS9/05/5/5 19/22/23/25 dBm 7-79/-79/-79/-70/-70/-70 7-70/-70/-70/-70/-70/-70/-70 7-70/-70/-70/-70/-70/-70 802.11cr (VHT80) MCS9/07/07 17/20/23/23 dBm 7-6/-79/-90/-23 dBm 6-6/-69/-70/-20/-23 dBm 6-6/-69/-70/-20/-23 dBm			MCS0/0/0/0	20/23/24/26 dBm	
5 GHz 20/23/24/24 dBm -79/82/83/45 dBm 5 GHz 802.1te (VHT40) MCS3/3/3 20/23/24/24 dBm -76/79/80/82 dBm MCS4/4/4/4 19/22/325 dBm -76/79/80/82 dBm -76/79/80/82 dBm MCS6/6/6/6 18/21/22/4 dBm -73/76/77/79 dBm MCS6/6/6/6 18/21/22/4 dBm -70/73/74/76 dBm MCS6/6/6/6 18/21/22/4 dBm -70/73/74/76 dBm MCS7/777 170/70/23 dBm -70/73/74/76 dBm MCS8/8/8/8 15/8/9/21 dBm -60/63/66/7/9 dBm MCS9/9/99 15/8/9/21 dBm -60/63/66/7/9 dBm MCS9/0/00 20/23/24/26 dBm -81/84/85/87 dBm B02.1te (VHT80) MCS3/3/33 20/23/24/26 dBm -79/82/83/85 dBm MCS9/7/77 170/20/23 dBm -66/-69/79/80/82 dBm -66/-69/79/80/82 dBm MCS9/7/78 19/22/23/25 dBm -66/-69/79/80/82 dBm -66/-69/79/80/82 dBm MCS9/7/78 16/19/20/22 dBm -66/-69/79/80/82 dBm -66/-69/79/80/82 dBm MCS9/7/78 16/19/20/23 dBm -59/62/63/65 dBm -66/-69/70/20/23 dBm -59/62/63/65 dBm MCS9 <			MCS1/1/1/1	20/23/24/26 dBm	-85/-88/-89/-91 dBm
6Hz 6000000000000000000000000000000000000			MCS2/2/2/2	20/23/24/26 dBm	-83/-86/-87/-89 dBm
6 Hz 802.11ac (WHT40) Miclionation 109.22.30.50 mm 73/76/77/79 dm 6 MCS5/6/5/5 19/22/2325 dm 73/76/77/79 dm 73/76/77/79 dm 6 MCS5/6/6/6 18/21/22/4 dm 73/76/77/79 dm 70/73/74/76 dB 63/66/6/69 dm 63/66/67/69 dm 6 MCS9/9/9 15/18/9/21 dB 60/63/64/66 dm 70/73/74/76 dB 60/63/64/66 dm 63/66/71/69 dB 70/73/74/76 dB 60/63/64/66 dB 63/66/67/69 dB 70/73/74/76 dB 60/63/64/66 dB 63/64/66 dB 70/73/74/76 dB 60/63/64/66 dB 63/64/66 dB 70/73/74/76 dB 63/64/66 dB 63/64/66 dB 70/73/74/77 17170/21/23 dBm 65/68/69/01 70/73/74/76 dB 70/73/74/76 dB 70/73/74/76 dB 802.11ac (WH780) MCS10/101 20/23/24/26 dB 70/73/74/76/78 dB 802.11ac (WH780) MCS51/71/7 19/22/23/25 dB 67/70/79/80/77/74 dB 802.11ac (WH780) MCS51/71/7 19/22/23/25 dB 66/69/70/72/74 dB 802.11ac (WH780) MCS51/71/7 19/22/23/25 dB 66/69/70/72/74 dB			MCS3/3/3/3	20/23/24/26 dBm	
Field MCS5/5/5/5 19/22/23/25 dBm 7/3/17/47 dBm MCS6/6/6 18/21/22/4 dBm 7/27/37/47/6 dBm MCS7/77/7 17/20/21/23 dBm 7/07/37/47/6 dBm MCS8/8/8/8 16/19/20/22 dBm 63/66/67/69 dBm MCS8/8/8/8 15/19/20/22 dBm 63/66/67/69 dBm MCS9/9/9 15/18/9/21 dBm 63/68/647/69 dBm MCS8/8/8/8 15/19/20/22 dBm 85/88/89/91 dBm MCS9/1/101 20/23/24/26 dBm 85/88/89/91 dBm MCS9/2/22 20/23/24/26 dBm 65/68/69/61 MCS9/2/22 20/23/24/26 dBm 79/74/74/80 dBm MCS9/2/22 20/23/24/26 dBm 79/74/74/80 dBm MCS9/2/22 19/22/23/25 dBm 72/75/76/78 dBm MCS9/2/3/4 19/22/23/25 dBm 72/75/76/78 dBm MCS9/6/6/6 19/21/22/24 dBm 66/69/70/72 dBm MCS9/9/9 15/18/9/21 dBm 66/69/70/72 dBm MCS9/9/9/9 15/18/9/21 dBm 79/64/65/67 dBm MCS9/9/9/9 15/18/9/21 dBm 79/64/65/67 dBm MCS1 20 dBm 77/64/68 MCS1 <td>5.014</td> <td>000440/(1740)</td> <td>MCS4/4/4/4</td> <td>19/22/23/25 dBm</td> <td>-76/-79/-80/-82 dBm</td>	5.014	000440/(1740)	MCS4/4/4/4	19/22/23/25 dBm	-76/-79/-80/-82 dBm
5 GHz 163/12/21 dBm -70/73/74/-76 dBm MCS37/777 17/20/21/23 dBm -63/66/-67/-69 dBm MCS8/8/8/8 161/9/20/21 dBm -60/63/-64/-66 dBm MCS9/9/9/9 151/81/9/21 dBm -60/63/-64/-66 dBm MCS9/9/9/9 151/81/9/21 dBm -85/-88/-89/-91 dBm MCS1/1/11 20/23/24/26 dBm -85/-88/-89/-91 dBm 5 GHz 20/23/24/26 dBm -79/-82/-83/-85 dBm 802.11cr (VHT80) MCS3/3/3/3 20/23/24/26 dBm -76/-79/-80/-82 dBm MCS5/5/5/5 19/22/23/25 dBm -72/-75/-76/-78 dBm -72/-75/-76/-78 dBm MCS6/6/6/6 18/21/22/24 dBm -66/-69/-70/-72 dBm -66/-69/-70/-72 dBm MCS9/9/9/9 16/19/20/22 dBm 66/-69/-70/-72 dBm -65/-68/-69/-71 dBm MCS9/9/9/9 16/19/20/22 dBm 65/-68/-69/-71 dBm -66/-69/-70/-72 dBm MCS9/9/9/9 16/19/20/22 dBm 65/-68/-69/-71 dBm -65/-68/-69/-71 dBm MCS9/9/9/9 16/19/20/22 dBm 65/-68/-69/-71 dBm -65/-68/-69/-71 dBm MCS9/9/9/9 16/19/9/21 dBm -65/-68/-69/-71 dBm -76/-68/-69/-71 dBm <td< td=""><td>5 GHZ</td><td>802.11ac (VH140)</td><td>MCS5/5/5/5</td><td>19/22/23/25 dBm</td><td>-73/-76/-77/-79 dBm</td></td<>	5 GHZ	802.11ac (VH140)	MCS5/5/5/5	19/22/23/25 dBm	-73/-76/-77/-79 dBm
Bit			MCS6/6/6/6	18/21/22/24 dBm	-72/-75/-76/-78 dBm
Index Index Index Index Index Index MCS9/9/9/9 15/18/19/21 dBm -60/-63/-64/-66 dBm -85/-83/-89/-91 dBm MCS9/9/9/9 15/18/19/21 dBm -85/-83/-89/-91 dBm -85/-83/-89/-91 dBm MCS1/1/1 20/23/24/26 dBm -81/-84/-85/-87 dBm -81/-84/-85/-87 dBm FGH2 20/23/24/26 dBm -72/-75/-80/-82 dBm -72/-75/-76/-80 dBm -72/-75/-76/-78 dBm FGH2 802.11ac (VHT80) MCS3/3/3 20/23/24/26 dBm -72/-75/-76/-78 dBm MCS5/5/5 19/22/23/25 dBm -72/-75/-76/-78 dBm -72/-75/-76/-78 dBm -65/-69/-70/-72 dBm MCS5/5/5 19/22/23/25 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm MCS7/77/7 17/20/21/23 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm MCS59/9/9/9 15/18/19/21 dBm 65/-69/-70/-72 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm MCS59/9/9/9 15/18/-99/-10 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm -65/-69/-70/-72 dBm MCS1 20 dBm -65/-69/-70/-72 dBm -65/-69/-70/-7			MCS7/7/7/7	17/20/21/23 dBm	
6 H2 7 H2 H3 H2 H3 H2 6 H2 7 H2 H3 H2 H3 H3 H2 8 H3 H4 H3 H3 H2 H3			MCS8/8/8/8	16/19/20/22 dBm	-63/-66/-67/-69 dBm
FGHz 20/23/24/26 dBm 6.94/4.85/.97 dBm FGHz 20/23/24/26 dBm 7.97.82/83/58 dBm B802.11ac (VHT80) MCS3/3/31 2.02/23/24 GBm 7.07.75/7.67.80 dBm MCS5/5/5 19/22/23/25 dBm 7.07.75/7.67.80 dBm 6.87.17/27/4 dBm MCS5/5/5 19/22/23/25 dBm 6.66/9.701/72 dBm 6.87.17/27/4 dBm MCS5/6/66 18/21/22/4 dBm 6.66/9.701/72 dBm 6.67.46/67/14 dBm MCS7/77/7 MCS8/878 110/20/21/23 dBm 6.65/68/60/11 dBm MCS7/77/7 MCS8/878 110/20/21/23 dBm 6.56/68/60/11 dBm MCS7/77/7 MCS9/99/9 15/18/19/11 dBm 6.56/68/60/11 dBm MCS1 2.00 dBm 7.82 dBm 6.67/68/01 MCS1 2.01 dBm 6.73 dBm 6.73 dBm MCS1 2.01 dBm 7.73 dBm 7.73 dBm MCS1 MCS1 10.40 dBm 6.69/67/11 MCS1 MCS1 10.40 dBm 6.69/67/11 MCS1 MCS1 10.40 dBm 6.61 dBm MCS1 MCS3 19.40 Bm 6.61 d			MCS9/9/9/9	15/18/19/21 dBm	-60/-63/-64/-66 dBm
FGHz 20/23/24/26 dBm -79/82/83/65 dBm 5 GHz 802.11ac (VHT80) MCS3/3/3/3 20/23/24/26 dBm -76/-79/80/82 dBm MCS4/4/4 19/22/23/25 dBm -72/-75/-76/78 dBm -78/-78/-78 dBm -78/-78/-78 dBm MCS4/6/6/6 18/21/22/4 dBm -66/-60/-71/2 dBm -66/-60/-71/2 dBm -66/-60/-71/2 dBm MCS7/7/7/ 18/21/22/4 dBm -65/-66/-71 dBm -65/-66/-71 dBm -65/-66/-71 dBm MCS7/7/7/ 11/10/20/22 dBm -65/-66/-71 dBm -65/-66/-71 dBm -65/-66/-71 dBm MCS7/7/7/ 11/10/20/22 dBm -65/-66/-71 dBm -65/-66/-71 dBm -65/-66/-71 dBm MCS7/7/7/ 11/10/20/22 dBm -65/-66/-71 dBm -65/-66/-71 dBm -65/-66/-61/Bm MCS7/7/7/ 11/10/20/22 dBm -65/-66/-61/Bm -65/-66/-61/Bm -65/-66/-61/Bm MCS9 MCS1 10/10/Bm -62/-63/-61/Bm -65/-66/-61/Bm MCS1 MCS1 10/10/Bm -76/-61/Bm -76/-61/Bm MCS1 MCS1 10/10/Bm -76/-61/Bm -76/-61/Bm MCS1 MCS3 10/10/B		802.11ac (VHT80)	MCS0/0/0/0	20/23/24/26 dBm	-85/-88/-89/-91 dBm
Baberson ACS3/3/3 20/23/24 GBm -76/-79/-80/-82 dBm Baberson MCS3/3/3 19/22/23/25 dBm -72/-75/-76/-78 dBm MCS5/5/5/5 19/22/23/25 dBm -66/-69/-70/-24 dBm -66/-69/-70/-24 dBm MCS6/6/6 18/21/22/4 dBm -66/-69/-70/-24 dBm -66/-69/-70/-24 dBm MCS9/9/9 11/20/21/23 dBm -65/-68/-69/-71 dBm -66/-68/-67/-71 dBm MCS9/9/9 15/18/19/21 dBm -65/-68/-69/-71 dBm -61/-68/-65/-67 dBm MCS9/9/9 15/18/19/21 dBm -65/-68/-69/-71 dBm -61/-68/-65/-67 dBm MCS9/9/9 15/18/19/21 dBm -65/-68/-69/-71 dBm -61/-68/-65/-67 dBm MCS9 10/19/-10 10/10 -76/-68/-69/-71 dBm MCS9 -61/-61/-10 -61/-61/-61/-61/-61/-61/-61/-61/-61/-61/			MCS1/1/1/1	20/23/24/26 dBm	-81/-84/-85/-87 dBm
5 GHz 802.11ac (VHT80) MCS4/4/44 MCS5/5/5 19/22/325 dBm 19/22/325 dBm MCS5/5/5 72/75/76/78 dBm 6/6/71/72/4 dBm MCS6/6/6 18/21/22/4 dBm 66/6/97/72 MCS6/6/6 18/21/22/4 dBm 65/68/97/1 dBm MCS7/7/7 17/20/21/3 dBm 65/68/97/1 dBm MCS9/9/9 15/81/92/1 dBm 65/68/99/1 dBm MCS9/9/9 15/81/92/1 dBm 69/22/35 dBm MCS9 910 15/81/92/1 dBm MCS9 16/92/92 19/22/32 dBm MCS9 16/92/92 19/22/32 dBm MCS9 11/20/22 dBm 69/26/3-05 MCS9 10/20/22 dBm 69/26/3-05 MCS1 20 dBm 69/26/3-05 MCS2 19/26/3-05 69/26/3-05 MCS1 19/26/3-05 69/26/3-05 MCS2 19/26/3-05 69/26/3-05 MCS2 19/26/3-05 69/26/3-05 MCS2 19			MCS2/2/2/2	20/23/24/26 dBm	-79/-82/-83/-85 dBm
5 GHz802.11ac (VHT80)MCS5/5/5/519/2/23/25 dBm-68/71/72/74 dBmMCS5/6/6/618/21/22/4 dBm-66/-69/-70/25 dBm-66/-69/-70/25 dBmMCS5/7/7/717/20/21/23 dBm-65/-68/-69/-71 dBmMCS5/9/9/915/18/19/21 dBm-61/-64/-65/-67 dBmMCS9/9/9/915/18/19/21 dBm-59/-62/-63/-65 dBmMCS915/18/19/21 dBm-59/-62/-63/-65 dBmMCS120 dBm-82 dBmMCS219 dBm-73 dBmMCS319 dBm-65 dBmMCS519 dBm-65 dBmMCS519 dBm-65 dBmMCS618 dBm-65 dBmMCS618 dBm-63 dBmMCS617 dbm-63 dBmMCS6 <td< td=""><td></td><td>MCS3/3/3/3</td><td>20/23/24/26 dBm</td><td>-76/-79/-80/-82 dBm</td></td<>			MCS3/3/3/3	20/23/24/26 dBm	-76/-79/-80/-82 dBm
Financial MCS5/5/5/5 19/22/23/25 dBm -68/-71/-72/4 dBm MCS6/6/6/6 18/21/22/24 dBm -66/-69/-702 dBm -66/-69/-702 dBm MCS5/7/77 17/20/21/23 dBm -65/-68/-69/-71 dBm -65/-68/-69/-71 dBm MCS9/9/9 15/18/19/21 dBm -65/-68/-69/-71 dBm -61/-64/-65/-67 dBm MCS9/9/9 15/18/19/21 dBm -69/-63/-65 dBm -61/-64/-65/-67 dBm MCS9/9/9 15/18/19/21 dBm -59/-62/-63/-65 dBm -61/-64/-65/-67 dBm MCS9 90/99 15/18/19/21 dBm -69/-63/-65 dBm MCS1 20 dBm -78 dBm MCS2 19 dBm -73 dBm MCS3 19 dBm -69/-69/-69/-69/-69/-69/-69/-69/-69/-69/	5 GHz		MCS4/4/4/4	19/22/23/25 dBm	-72/-75/-76/-78 dBm
MCS7/7/7 MCS8/8/817/20/21/23 dBm 16/19/20/22 dBm-65/-68/-69/-71 dBm -61/-64/-65/-7 dBm -59/-20-33 dBm -59/-20-33 dBm -59/-20-33 dBm -59/-20-33 dBm -59/-20-33 dBmNCS015/18/19/21 dBm-59/-20-33 dBm -59/-20-33 dBm -59/-20-33 dBm -59/-20-33 dBm -59/-20-33 dBmNCS020 dBm-82 dBm 	5 0112		MCS5/5/5/5	19/22/23/25 dBm	-68/-71/-72/-74 dBm
MCS8/8/8/816/19/20/20 dBm-6/h-6/h-G7 dBmMCS8/9/9/915/18/19/21 dBm-5/h-62/-63/-65 dBmNMCS020 dBm-82 dBmNMCS120 dBm-78 dBmMCS219 dBm-76 dBmSGHz19 dBm-73 dbm802.11ac (VHT80P80/VHT160)MCS319 dBmMCS619 dBm-65 dBmMCS618 dBm-63 dBmMCS618 dBm-63 dBmMCS717 dbm-63 dBm			MCS6/6/6/6	18/21/22/24 dBm	-66/-69/-70/-72 dBm
Image: style in the style in			MCS7/7/7/7	17/20/21/23 dBm	-65/-68/-69/-71 dBm
NMCS0 20 dBm -82 dBm MCS1 20 dBm -78 dBm MCS2 19 dBm -76 dBm 5 GHz 19 dBm -73 dbm 802.11ac (VHT80P80/VHT160) MCS3 19 dBm -69 dBm MCS5 19 dBm -65 dBm -65 dBm MCS6 18 dBm -63 dBm MCS7 17 dbm -62 dBm			MCS8/8/8/8	16/19/20/22 dBm	-61/-64/-65/-67 dBm
NCS1 20 dBm -78 dBm MCS2 19 dBm -76 dBm SGHz 19 dBm -73 dbm NCS4 19 dBm -69 dBm MCS5 19 dBm -69 dBm MCS6 19 dBm -63 dBm MCS6 18 dBm -63 dBm MCS7 17 dbm -62 dBm			MCS9/9/9/9	15/18/19/21 dBm	-59/-62/-63/-65 dBm
h h	5 GHz	802.11ac (VHT80P80/VHT160)	MCS0	20 dBm	-82 dBm
5 GHz MCS3 19 dBm -73 dbm 5 GHz 802.11ac (VHT80P80/VHT160) MCS4 19 dBm -69 dBm MCS5 19 dBm -65 dBm -63 dBm MCS6 18 dBm -63 dBm MCS7 17 dbm -62 dBm			MCS1	20 dBm	-78 dBm
SGHz 802.11ac (VHT80P80/VHT160) MCS4 19 dBm -69 dBm MCS5 19 dBm -65 dBm -65 dBm MCS6 18 dBm -63 dBm MCS7 17 dbm -62 dBm			MCS2	19 dBm	-76 dBm
5 GHz 802.11ac (VHT80P80/VHT160) MCS5 19 dBm -65 dBm MCS6 18 dBm -63 dBm -62 dBm			MCS3	19 dBm	-73 dbm
MCS5 19 dBm -65 dBm MCS6 18 dBm -63 dBm MCS7 17 dbm -62 dBm			MCS4	19 dBm	-69 dBm
MCS7 17 dbm -62 dBm			MCS5	19 dBm	-65 dBm
			MCS6	18 dBm	-63 dBm
			MCS7	17 dbm	-62 dBm
MCS8 16 dBm -58 dBm			MCS8	16 dBm	-58 dBm
MCS9 15 dBm -56 dbm			MCS9	15 dBm	-56 dbm

Signal Coverage Patterns

Radiation Pattern for 2.4GHz Antennas



Radiation Pattern for 5GHz Antennas



ThunderIT for the REMC SAVE Contract

ThunderIT offers products and services for REMC SAVE contract customers at a discounted price in accordance to the REMC price list.

Overview for the REMC SAVE contract

REMC SAVE provides large volume contracts for a variety of educational resources, including furniture, school and office supplies, software and digital services, and technology.

The program saves time and money by providing bids compliant with the Michigan Revised School Code that also provides local school districts with the authority to purchase using REMC contracts. The legislation that established REMCs (Michigan Compiled Laws Act 451 Section 380.671), and State Board of Education Rules, enables REMCs to bid on behalf of local school districts and also provide local school districts with the authority to purchase using REMC contracts. All items and vendors are awarded through a sealed bid process by the REMC SAVE Bid Project and approved by the REMC Association.

REMC SAVE is provided as a project of the REMC Association of Michigan for all Michigan schools. REMC SAVE provides large-volume contracts for a variety of educational resources. By using REMC SAVE contracts, Michigan schools have saved more than \$1 billion since 1990. Every dollar saved through REMC SAVE today is one more dollar to invest in instruction tomorrow.

ThunderIT services the following REMC districts; REMC 1, REMC 2N, REMC 2C, REMC 2S, REMC 3, REMC 4, REMC 5, REMC 6, REMC 7, REMC 8, REMC 9, REMC 10, REMC 11, REMC 12W, REMC 12E, REMC 13, REMC 14W, REMC 14E, REMC 15, REMC 16, REMC 17, REMC 18S, REMC 18N, REMC 19W, REMC 19E, REMC 20, REMC 21, REMC 22

ThunderIT services the following REMC customers; AKIVA HEBREW DAY SCHOOL, BIRNEY MIDDLE SCHOOL, BUSSEY CTR-EARLY CHILDHOOD DEV, DEVRY UNIVERSITY - SOUTHFIELD – CENTRAL, HAMILTON ACADEMY CENTRAL OFFICE, LEONHARD ELEMENTARY SCHOOL, MCINTYRE ELEMENTARY SCHOOL, OAKLAND INTERNATIONAL ACADEMY

Other REMC contract holders include: Inacomp Technical Services Group, Sentinel Technologies, Software Services Group, Insight Direct USA, Information Systems Intelligence, Netech, Secant Technologies, CDW Logistics Inc (CDWG)

ThunderIT offers a variety of Solutions & Services to meet your every need

Digital Workplace

Transform your digital workplace and empower employees to drive your business forward. We deliver flexible, tailored, end-to-end solutions to keep your workforce engaged and productive. With an innovative approach centered around exceptional user experiences.

Smart Spaces

We provide smart workspace solutions to help you deliver consistent network performance and give guests, employees and students an uninterrupted experience.

Secure Network Solutions

Our security solutions help protect your network and critical data from cybersecurity threats

Safe Environments

We believe that employee, student, and customer safety is paramount in any environment. That's why our solutions provide a cloud based platform to help you intuitively manage and monitor physical locations to ensure a safe experience for everyone.

Next Generation WiFi

Power new and improved user experiences with our managed wifi solutions, offering faster speeds for enhanced application experience and more capacity for high density indoor and outdoor environments.

Remote Work Solutions

With our remote work solutions, working away from the office is no big deal. Give employees a secure, optimized connection to your entire network from anywhere.

Hybrid Workforce

We provide a seamless hybrid workforce solution that embraces change and operational scale. Give your employees and customers unrivaled experiences with a cloud platform that unifies best-in-class technologies.

Free Network Evaluation & Demo

ThunderIT offers a FREE Network Evaluation and/or product Demo to help ensure you are well informed and confident when choosing the right Cisco Meraki solution for your needs. During our call we'll architect a custom built Cisco Meraki solution for your business or environment.

Migration & Deployment

ThunderIT offers Migration and Deployment Services for your Cisco Meraki solution. Our experienced team of IT Professionals can configure, deploy and support your products to meet your needs. Our custom solutions ensure maximum efficiency and provide a clear path for your business going forward.

Managed Security

ThunderIT offers the best and most cost-effective solution to lower your risk in a heightened threat environment. Our team of certified Cisco engineers are ready to ensure that your network is secure, and your firewall is optimally configured to defend your business.

Mobile device management (MDM) Services

Our Mobile Device Management (MDM) solution unifies management of thousands of endpoint devices in a secure cloud platform, driving your organization's mobility initiatives, while maintaining an environment of agility and security.

Support & Monitoring

ThunderIT offers network support and monitoring services that are designed to fit the needs of every customer.

FAQs for the REMC SAVE Contract

Q: Does REMC SAVE meet the legal requirement for competitive bidding? A: The legislation that established REMCs (Michigan Compiled Laws Act 451 Section 380.671), and State Board of Education Rules, enables REMCs to bid on behalf of local school districts and also provide local school districts with the authority to purchase using REMC contracts. All items are competitively bid by REMC SAVE and awarded by the REMC Association.

Q: Who can Use REMC SAVE contracts? A: The following agencies are eligible to purchase using REMC SAVE contracts: PreK-12 Public, Charter (PSA) and Non-Public Schools, Community Colleges, Universities and Colleges, Public Libraries, Museums, State, County, and Local Government Agencies, Educational Non-profit Organizations and Health Care Facilities. Personal purchases at awarded bid pricing are at the discretion of the vendors.

Q: What is REMC SAVE? A: REMC SAVE is a free service of the REMC Association for all Michigan schools. There are 3 staff of REMC SAVE, and they conduct all of the bids and maintain vendor contracts. You can ask your local REMC Center questions. Find your local REMC Center by scrolling down the REMC SAVE home screen to view the map for your region or look up by zip code.

Q: How do I provide feedback? A: Your local REMC SAVE contact will always listen to any feedback you wish to provide. If you have feedback about the product, scroll down the home screen at remcsave.org and click 'View All Vendors' and you can complete a vendor evaluation form.

Q: What if my company wishes to become an awarded vendor? A: Go to vendorcenter.remcbids.org and create an account by clicking Login or Register in the upper right corner. Follow the directions! The only requirement is that you need five Michigan K12 school references. Customers can send their vendor recommendations to their local REMC contact or email remcsave@remc.org

Q: How are the vendors and products selected? A: Products and Vendors are awarded through a competitive bid process. REMC SAVE staff analyzes all bids and make recommendations to the REMC SAVE Advisory Committee for award. Once the REMC SAVE Advisory Committee votes on the award recommendations, they are then voted on by the REMC Association Board of Directors for final award.

Q: Where do I send my order or contact an awarded vendor? To contact vendors, navigate to the vendor listing by scrolling down the home screen and click 'view all vendors,' or navigate to https://www.remcsave.org/vendors. Click on the vendor name to find their contact information.

Q: What do I need to include on my purchase order? Please make sure your purchase order is itemized and includes the REMC item number, the model number/name, the reseller product number (if available), the quantity of each item to be purchased, and the unit price. A quote may be attached, but the purchase order should still be itemized. Sometimes the item numbers for the warranties, accessories, and upgrades are located on the spec sheet, linked from the awarded item page – be sure to include on the Purchase Order.