

aptX IOP Sink Test Report



Date :	9/29/2022	Device type	Sink
Product Name :	KHADAS, BT Magic	Firmware version :	QCC5125/ADK6.4

Summary :	Device approved. The latency should be less than 44ms for using aptX Low Latency logo. After special approval from Qualcomm marketing, this test item can be waived and the product can claim to support aptX Low Latency.
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Supported features	aptX HD	Yes	TWS	No	IOP result Pass
	aptX Classic	Yes	TWS Plus	No	
	aptX Low latency	Yes V2	Share Me	No	
	SCMS-T	Yes	Multipoint	No	
	Back Channel	No	aptX Voice	No	

Test Reference Machines	Name	Test Result	Comment
	8670 aptX LL USB Source	Suboptimal	44ms < latency < 50ms
	8675 aptX HD USB Source	Pass	
	QRD8350	Pass	
	QRD8150	Pass	

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Source Firmware Version		Source Device type		Source features
ADK4.3.1		8670 aptX LL USB Source		aptX-LL with SCMS-T

Category	Test Name		Test description	Expected behavior	Result	Comments
Connection Tests	Pairing test	Mandatory	Pair devices, start streaming	Pairing and connection successful, music plays	Pass	
	Source originated clean disconnection	If supported by the source	Disconnect the device using the source's GUI, reconnect the device using the source's GUI, start streaming	Reconnection successful on the first attempt, music can be resumed	N/A	
	Sink Originated clean disconnection	If supported by the sink	Power cycle the sink device, reconnect the device using the sink's buttons, start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Source originated dirty disconnection	If supported by the source	Remove the source's battery (or power cable), wait for the sink to time-out the connection, reconnect the source, start streaming	Reconnection successful on the first attempt, music can be resumed	Pass	
	Sink originated dirty disconnection	If supported by the sink	Remove the sink's battery (or power cable), wait for the source to time-out the connection, reconnect the sink start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Out of range test	Mandatory	While streaming, walk out of range with the source or sink, wait for disconnection, walk back in range, reconnect and start streaming	Reconnection successful, music plays ok	Pass	
Performance test	Glitch test	Mandatory	With both devices one meter away from each other, play the 100 Hz tone signal	No audible audio glitch observed over 3 minutes	Pass	
	Source initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the source and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	Pass	43.2ms
	Sink initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the sink and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	Pass	42.8ms
	Latency recovery test	Mandatory if both devices support aptX Low Latency	Move the devices away from each other until audio starts to break up while connection is still up, then put the devices beside each other	Latency may increase while radio conditions are degrading, but latency must recover to <50 ms when radio conditions improve, <40±10% ms if the device uses the aptX Low Latency logo	Suboptimal	around 46-47.6ms

Source Firmware Version		Source Device type		Source features
ADK4.3.1		8670 aptX LL USB Source		aptX-LL with SCMS-T

Category	Test Name		Test description	Expected behavior	Result	Comments
Feature related tests	True Wireless test	Mandatory if supported by the sink	Set the sink device in True Wireless mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	True Wireless Plus test	Mandatory if Supported by the source and sink	Set the sink device in TWS plus mode, connect to the source and start streaming	Confirm aptX codec is selected; see two sink devices are connected to the source. Both sinks are playing the same stream and no audible audio glitch observed over 3 minutes	N/A	
	Share Me	Mandatory if supported by the sink	Set the sink device in Share Me mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	Multipoint test	Mandatory if supported by the sink	Set the sink device in multipoint mode, connect to two different sources, start streaming from source 1, then from source 2	Both sources can play to the device without reconnection needed (only one source playing at a time)	N/A	
	Back channel	Mandatory if supported by the source and sink	Talk into the sink microphone	The voice can be heard in the source output	N/A	

Source Firmware version		Source Device type		Source features
ADK4.4.0.21		8675 aptX HD USB Source		aptX HD with SCMS-T

Category	Test Name		Test description	Expected behavior	Result	Comments
Connection Tests	Pairing test	Mandatory	Pair devices, start streaming	Pairing and connection successful, music plays	Pass	
	Source originated clean disconnection	If supported by the source	Disconnect the device using the source's GUI, reconnect the device using the source's GUI, start streaming	Reconnection successful on the first attempt, music can be resumed	N/A	
	Sink Originated clean disconnection	If supported by the sink	Power cycle the sink device, reconnect the device using the sink's buttons, start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Source originated dirty disconnection	If supported by the source	Remove the source's battery (or power cable), wait for the sink to time-out the connection, reconnect the source, start streaming	Reconnection successful on the first attempt, music can be resumed	Pass	
	Sink originated dirty disconnection	If supported by the sink	Remove the sink's battery (or power cable), wait for the source to time-out the connection, reconnect the sink start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Out of range test	Mandatory	While streaming, walk out of range with the source or sink, wait for disconnection, walk back in range, reconnect and start streaming	Reconnection successful, music plays ok	Pass	
Performance test	Glitch test	Mandatory	With both devices one meter away from each other, play the 100 Hz tone signal	No audible audio glitch observed over 3 minutes	Pass	
	Source initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the source and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	N/A	
	Sink initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the sink and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	N/A	
	Latency recovery test	Mandatory if both devices support aptX Low Latency	Move the devices away from each other until audio starts to break up while connection is still up, then put the devices beside each other	Latency may increase while radio conditions are degrading, but latency must recover to <50 ms when radio conditions improve, <40±10% ms if the device uses the aptX Low Latency logo	N/A	

Source Firmware version		Source Device type		Source features
ADK4.4.0.21		8675 aptX HD USB Source		aptX HD with SCMS-T

Category	Test Name		Test description	Expected behavior	Result	Comments
Feature related tests	True Wireless test	Mandatory if supported by the sink	Set the sink device in True Wireless mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	True Wireless Plus test	Mandatory if Supported by the source and sink	Set the sink device in TWS plus mode, connect to the source and start streaming	Confirm aptX codec is selected; see two sink devices are connected to the source. Both sinks are playing the same stream and no audible audio glitch observed over 3 minutes	N/A	
	Share Me	Mandatory if supported by the sink	Set the sink device in Share Me mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	Multipoint test	Mandatory if supported by the sink	Set the sink device in multipoint mode, connect to two different sources, start streaming from source 1, then from source 2	Both sources can play to the device without reconnection needed (only one source playing at a time)	N/A	
	Back channel	Mandatory if supported by the source and sink	Talk into the sink microphone	The voice can be heard in the source output	N/A	

Source Firmware version		Source Device type		Source features
Android 11		QRD8350		aptX adaptive

Category	Test Name		Test description	Expected behavior	Result	Comments
Connection Tests	Pairing test	Mandatory	Pair devices, start streaming	Pairing and connection successful, music plays	Pass	
	Source originated clean disconnection	If supported by the source	Disconnect the device using the source's GUI, reconnect the device using the source's GUI, start streaming	Reconnection successful on the first attempt, music can be resumed	Pass	
	Sink Originated clean disconnection	If supported by the sink	Power cycle the sink device, reconnect the device using the sink's buttons, start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Source originated dirty disconnection	If supported by the source	Remove the source's battery (or power cable), wait for the sink to time-out the connection, reconnect the source, start streaming	Reconnection successful on the first attempt, music can be resumed	N/A	
	Sink originated dirty disconnection	If supported by the sink	Remove the sink's battery (or power cable), wait for the source to time-out the connection, reconnect the sink start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Out of range test	Mandatory	While streaming, walk out of range with the source or sink, wait for disconnection, walk back in range, reconnect and start streaming	Reconnection successful, music plays ok	Pass	
Performance test	Glitch test	Mandatory	With both devices one meter away from each other, play the 100 Hz tone signal	No audible audio glitch observed over 3 minutes	Pass	
	Source initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the source and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	N/A	
	Sink initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the sink and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	N/A	
	Latency recovery test	Mandatory if both devices support aptX Low Latency	Move the devices away from each other until audio starts to break up while connection is still up, then put the devices beside each other	Latency may increase while radio conditions are degrading, but latency must recover to <50 ms when radio conditions improve, <40±10% ms if the device uses the aptX Low Latency logo	N/A	

Source Firmware version		Source Device type		Source features
Android 11		QRD8350		aptX adaptive

Category	Test Name		Test description	Expected behavior	Result	Comments
Feature related tests	True Wireless test	Mandatory if supported by the sink	Set the sink device in True Wireless mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	True Wireless Plus test	Mandatory if Supported by the source and sink	Set the sink device in TWS plus mode, connect to the source and start streaming	Confirm aptX codec is selected; see two sink devices are connected to the source. Both sinks are playing the same stream and no audible audio glitch observed over 3 minutes	N/A	
	Share Me	Mandatory if supported by the sink	Set the sink device in Share Me mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	Multipoint test	Mandatory if supported by the sink	Set the sink device in multipoint mode, connect to two different sources, start streaming from source 1, then from source 2	Both sources can play to the device without reconnection needed (only one source playing at a time)	N/A	
	Back channel	Mandatory if supported by the source and sink	Talk into the sink microphone	The voice can be heard in the source output	N/A	

Source Firmware version		Source Device type		Source features
Android 9		QRD8150		aptX adaptive

Category	Test Name		Test description	Expected behavior	Result	Comments
Connection Tests	Pairing test	Mandatory	Pair devices, start streaming	Pairing and connection successful, music plays	Pass	
	Source originated clean disconnection	If supported by the source	Disconnect the device using the source's GUI, reconnect the device using the source's GUI, start streaming	Reconnection successful on the first attempt, music can be resumed	Pass	
	Sink Originated clean disconnection	If supported by the sink	Power cycle the sink device, reconnect the device using the sink's buttons, start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Source originated dirty disconnection	If supported by the source	Remove the source's battery (or power cable), wait for the sink to time-out the connection, reconnect the source, start streaming	Reconnection successful on the first attempt, music can be resumed	N/A	
	Sink originated dirty disconnection	If supported by the sink	Remove the sink's battery (or power cable), wait for the source to time-out the connection, reconnect the sink start streaming	If the sink is capable of initiating a connection, reconnection successful on the first attempt, music can be resumed	Pass	
	Out of range test	Mandatory	While streaming, walk out of range with the source or sink, wait for disconnection, walk back in range, reconnect and start streaming	Reconnection successful, music plays ok	Pass	
Performance test	Glitch test	Mandatory	With both devices one meter away from each other, play the 100 Hz tone signal	No audible audio glitch observed over 3 minutes	Pass	
	Source initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the source and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	N/A	
	Sink initiated latency test	Mandatory if both devices support aptX Low Latency	Initiate the connection from the sink and measure latency over 3 minutes in good radio conditions	The latency must be <50 ms, <40±10% ms if the device uses the aptX Low Latency logo	N/A	
	Latency recovery test	Mandatory if both devices support aptX Low Latency	Move the devices away from each other until audio starts to break up while connection is still up, then put the devices beside each other	Latency may increase while radio conditions are degrading, but latency must recover to <50 ms when radio conditions improve, <40±10% ms if the device uses the aptX Low Latency logo	N/A	

Source Firmware version		Source Device type		Source features
Android 9		QRD8150		aptX adaptive

Category	Test Name		Test description	Expected behavior	Result	Comments
Feature related tests	True Wireless test	Mandatory if supported by the sink	Set the sink device in True Wireless mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	True Wireless Plus test	Mandatory if Supported by the source and sink	Set the sink device in TWS plus mode, connect to the source and start streaming	Confirm aptX codec is selected; see two sink devices are connected to the source. Both sinks are playing the same stream and no audible audio glitch observed over 3 minutes	N/A	
	Share Me	Mandatory if supported by the sink	Set the sink device in Share Me mode, connect to the source and start streaming	Music plays on both receivers	N/A	
	Multipoint test	Mandatory if supported by the sink	Set the sink device in multipoint mode, connect to two different sources, start streaming from source 1, then from source 2	Both sources can play to the device without reconnection needed (only one source playing at a time)	N/A	
	Back channel	Mandatory if supported by the source and sink	Talk into the sink microphone	The voice can be heard in the source output	N/A	