Remee Products Corp.
LETTER REPORT

SCOPE OF WORK
Functional performance testing of extended distance cabling systems to support 10BASE-T, 100BASE-T and 1000BASE-T operation.

REPORT NUMBER
105178206CRT-001a

ISSUE DATE
26-October-2022

REVISED DATE
None

TESTS START DATE
11-October-2022

TESTS END DATE
11-October-2022

PAGES
4

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LETTER REPORT

26-October-2022

Intertek Report No. 105178206CRT-001a
Intertek Project No. G105178206

Mr. Tom Valentine
Remee Products Corp.
1751 Route 17A
Florida, NY 10921

Subject: Performance testing of extended distance cabling configuration for support of 10BASE-T, 100BASE-TX and 1000BASE-T with no BER and FCS errors

Dear Mr. Valentine:

This letter report represents the results of our evaluation of the above referenced product(s) to the requirements contained in the following document(s):

IEEE Std 802.3bt™-2018 Standard for Ethernet, Approved 14-June-2018

SECTION 1
SUMMARY

Intertek wishes to inform you that the electrical transmission tests have been performed on your channel configuration. This testing was performed under project G105178206 and quotation Qu-01290070 issued 02-August-2022. Data transmission was achieved with no BER or FCS errors at the following lengths and rates combinations:

Rate	Length
10BASE-T	1,000 ft
100BASE-TX	700 ft
1000BASE-T	656 ft

SECTION 2
NON-CONFORMANCES

None

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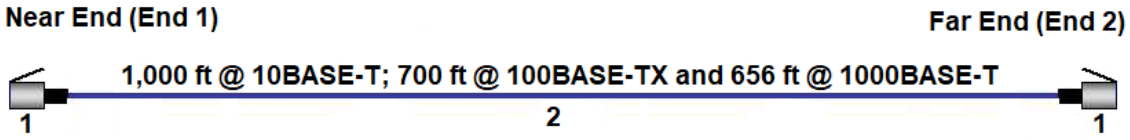
SECTION 3
SAMPLE DESCRIPTION

The client supplied a 2-connector unshielded channel as illustrated below.

The samples were received on 12-September-2022 and were production samples in undamaged condition.



Component Id	Manufacturer	Description	Part number
1	Simply RJ45	Field terminable plug	S45-1755
2	Remee	Unshielded horizontal (solid) cable	Activate uTP[1]

Note 1: The riser cable version p/n CMRuTP was used for the 1,000 ft test at 10Mb/s rate and the plenum cable version CMPuTP was used for the 700 ft and 656 ft tests at the 100Mb/s and 1Gb/s rates, respectively.

SECTION 4
TEST EQUIPMENT USED

The following test equipment was used to conduct the testing.

Test equipment used	Model number	Control number	Calibration due date
Aukua MGA2510	MGA2510	0100439	No calibration required
Temperature/humidity meter	OM-EL-USB-2-LCD	H243	11-May-2023

SECTION 5
TESTING

The following Ethernet events were monitored using the Aukua MGA2510 Ethernet monitoring platform.

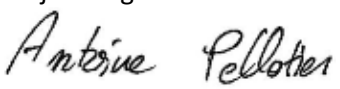
Test description	10BASE-T	100BASE-TX	1000BASE-T
Bit Error Rate (BER)	No error	No error	No error
Frame Check Sequence (FCS) errors	No error	No error	No error
Link Loss Events	No loss of link	No loss of link	No loss of link
Errored LDCP Frames	No error	No error	No error

The screen captures at all three (3) data rates are enclosed to this letter report.

SECTION 6
PROJECT STATUS & ACTION

Issuance of this letter report completes the performance testing of this channel cabling configuration BER and FCS performance per IEEE 802.3 covered by Intertek Project No. G105178206 and quotation Qu-01290070. The test results are compliant with the requirements of the standard and sections referred to on pages 2 and 4. The testing was performed at Intertek located in Cortland, NY.

If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact your dedicated Intertek Project Manager.

Completed by:	David Ayers	Reviewed by:	Antoine Pelletier
Title:	Technician	Title:	Project Engineer
Signature:		Signature	
Date	26-October-2022	Date:	26-October-2022

Please note: this Letter Report does not represent authorization for the use of any Intertek certification marks.

AUKUA MGA2510

Port Configuration

10BASE-T SFP | Traffic Generator | Apply

P1 RX 98.70% | P1 TX 98.70% | P2 RX 98.70% | P2 TX 98.70%

Capture Buffer 0B/2.0GB (0.0%)

TRIG IN | TRIG OUT | NTP | CLK 10MHz | CLK 1PPS

START ALL | STOP ALL | CLEAR ALARMS | CLEAR STATS

Statistics | Generation | Filters | Capture | Jamming | Port Config | SMA Ports | Admin

Stats Logging... | Pause | Graph: bottom

Start P1 | Stop P1 | Start P2 | Stop P2

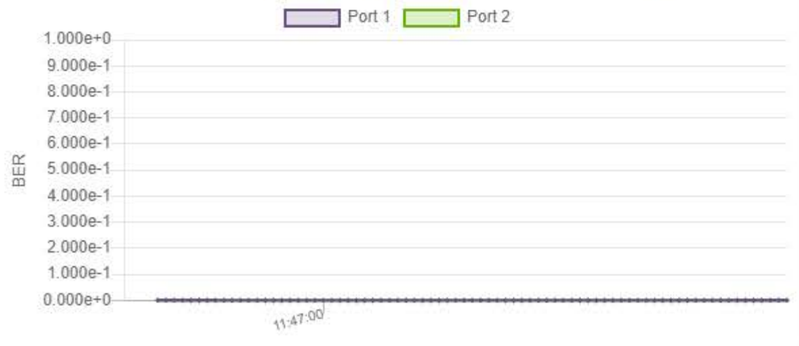
Timestamp: 11:47:56 AM Time Since Statistics Reset: 00:01:20

Traffic Routing for BER/Latency Test: P1→P2 / P2→P1

Reset Rows | Select Rows...

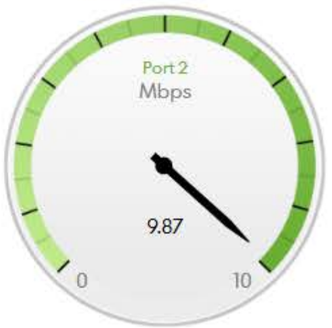
Port	Port 1	Port 2
Link		
Port Bandwidth - Bits	9,869,920 RX|TX 9,869,920	9,869,936 RX|TX 9,869,920
Port Bandwidth - Total Bits	759,986,688 RX|TX 759,986,960	759,986,704 RX|TX 759,986,960
Port Bandwidth - Total Packets	62,582 RX|TX 62,582	62,582 RX|TX 62,582
Port Bandwidth - Line Utilization	10.0 Mbps RX|TX 10.0 Mbps	10.0 Mbps RX|TX 10.0 Mbps
Traffic Generator - Packets Generated	813	813
Traffic Generator - Total Packets Generated	62,581	62,581
Latency Measurement - Average	27.2077 µs	26.8863 µs
BER - Bit Errors Received	0	0
BER - Total Bit Errors Received	0	0
BER - Total Bit Error Rate	0e+0	0e+0
Error Stats - FCS Errors	0 RX|TX 0	0 RX|TX 0
Error Stats - Total FCS Errors	0 RX|TX 0	0 RX|TX 0
Error Stats - Receive LOS Count	0	0
Error Stats - Total Receive LOS Count	0	0
Error Stats - Total Errored LDPC Frames Received	-	-

BER - Total Bit Error Rate



Port 1: Bandwidth Received

Port 2: Bandwidth Received



AUKUA MGA2510

Port Configuration

100BASE-TX SFP | Traffic Generator | Apply

P1 RX 98.70% | P1 TX 98.70% | P2 RX 98.70% | P2 TX 98.70%

Capture Buffer 0B/2.0GB (0.0%)

TRIG IN | TRIG OUT | NTP | CLK 10MHz | CLK 1PPS

START ALL | STOP ALL | CLEAR ALARMS | CLEAR STATS

Statistics | Generation | Filters | Capture | Jamming | Port Config | SMA Ports | Admin

Stats Logging... | Pause | Graph: bottom

Start P1 | Stop P1 | Start P2 | Stop P2

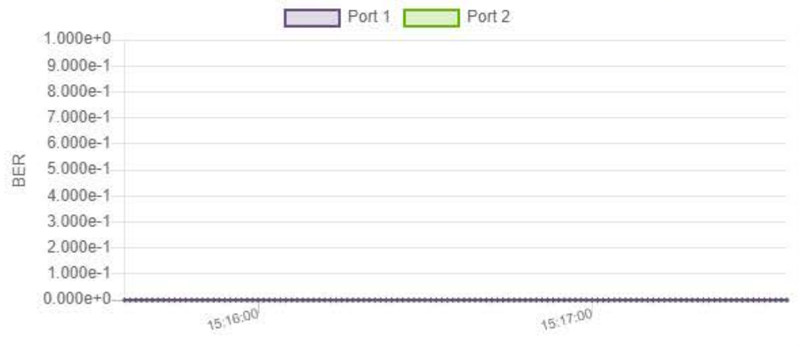
Timestamp: 3:17:35 PM Time Since Statistics Reset: 00:03:47

Traffic Routing for BER/Latency Test: P1→P2 / P2→P1

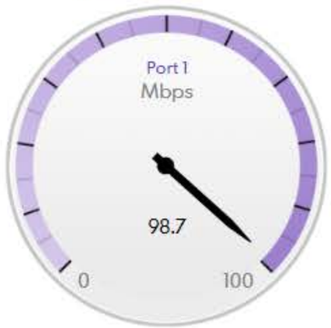
Reset Rows | Select Rows...

Port	Port 1	Port 2
Link		
Port Bandwidth - Bits	98,699,520 RX|TX 98,699,520	98,699,520 RX|TX 98,699,520
Port Bandwidth - Total Bits	19,838,621,040 RX|TX 19,838,621,472	19,838,621,056 RX|TX 19,838,621,472
Port Bandwidth - Total Packets	1,633,616 RX|TX 1,633,616	1,633,616 RX|TX 1,633,616
Port Bandwidth - Line Utilization	100.0 Mbps RX|TX 100.0 Mbps	100.0 Mbps RX|TX 100.0 Mbps
Traffic Generator - Packets Generated	8,128	8,128
Traffic Generator - Total Packets Generated	1,633,615	1,633,615
Latency Measurement - Average	3.8847 µs	3.8237 µs
BER - Bit Errors Received	0	0
BER - Total Bit Errors Received	0	0
BER - Total Bit Error Rate	0e+0	0e+0
Error Stats - FCS Errors	0 RX|TX 0	0 RX|TX 0
Error Stats - Total FCS Errors	0 RX|TX 0	0 RX|TX 0
Error Stats - Receive LOS Count	0	0
Error Stats - Total Receive LOS Count	0	0
Error Stats - Total Errored LDPC Frames Received	-	-

BER - Total Bit Error Rate



Port 1: Bandwidth Received



Port 2: Bandwidth Received

AUKUA MGA2510

Port Configuration

1000BASE-T SFP | Traffic Generator | Apply

P1 RX 98.70% | P1 TX 98.70% | P2 RX 98.70% | P2 TX 98.70%

Capture Buffer 0B/2.0GB (0.0%)

TRIG IN | TRIG OUT | NTP | CLK 10MHz | CLK 1PPS

START ALL | STOP ALL | CLEAR ALARMS | CLEAR STATS

Statistics | Generation | Filters | Capture | Jamming | Port Config | SMA Ports | Admin

Stats Logging... | Pause | Graph: bottom

Start P1 | Stop P1 | Start P2 | Stop P2

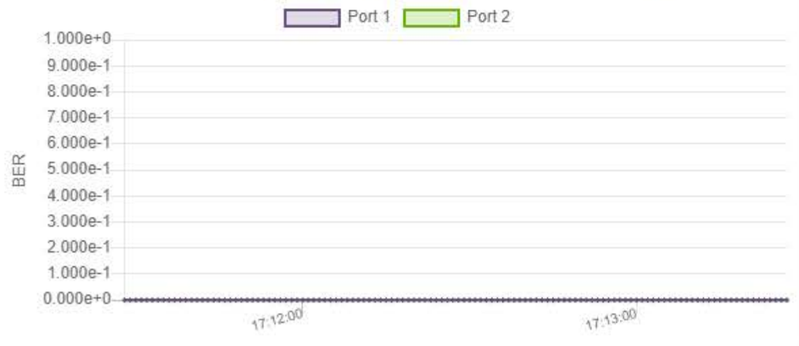
Timestamp: 5:13:27 PM Time Since Statistics Reset: 00:13:00

Traffic Routing for BER/Latency Test: P1→P2 / P2→P1

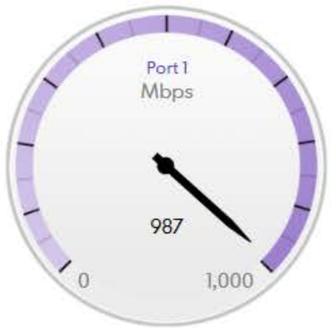
Reset Rows | Select Rows...

Port	Port 1	Port 2
Link		
Port Bandwidth - Bits	986,996,160 RX|TX 986,996,000	986,996,160 RX|TX 986,996,000
Port Bandwidth - Total Bits	766,895,966,368 RX|TX 766,895,968,256	766,895,966,352 RX|TX 766,895,968,256
Port Bandwidth - Total Packets	63,150,195 RX|TX 63,150,196	63,150,195 RX|TX 63,150,196
Port Bandwidth - Line Utilization	1.0 Gbps RX|TX 1.0 Gbps	1.0 Gbps RX|TX 1.0 Gbps
Traffic Generator - Packets Generated	81,275	81,275
Traffic Generator - Total Packets Generated	63,150,195	63,150,195
Latency Measurement - Average	1.7893 µs	1.7923 µs
BER - Bit Errors Received	0	0
BER - Total Bit Errors Received	0	0
BER - Total Bit Error Rate	0e+0	0e+0
Error Stats - FCS Errors	0 RX|TX 0	0 RX|TX 0
Error Stats - Total FCS Errors	0 RX|TX 0	0 RX|TX 0
Error Stats - Receive LOS Count	0	0
Error Stats - Total Receive LOS Count	0	0
Error Stats - Total Errored LDPC Frames Received	-	-

BER - Total Bit Error Rate



Port 1: Bandwidth Received



Port 2: Bandwidth Received