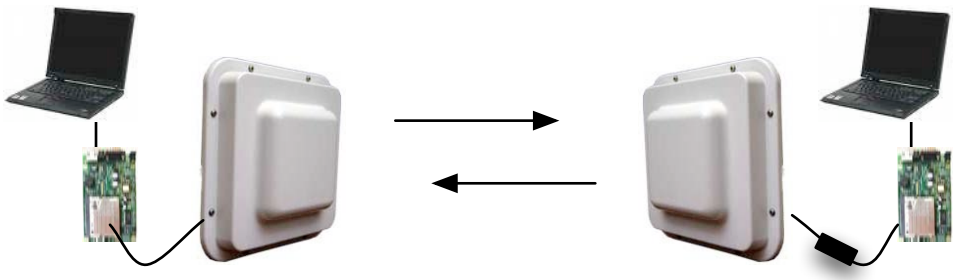
XR5 / Mikrotik Performance Study

TestSetup: XR5 links were established using the Mikrotik RB112 host boards and Pacific Wireless 5GHz rootennas. Using NetIQ Chariot, a test script was ran continously that passed heavy TCP/IP traffic in both directions. Testing was done under several different cases, each with varied signal strength or data rate selection. Signal strength was varied by using an adjustable attenuator at one side of the link.



Test Case	Description
1	High Signal Strength Link
2	Mid Signal Strength Link
3	Low Signal Strength Link
4	Low Link with Fixed Max Rate
5	XR5 Range/Throughput Comparison

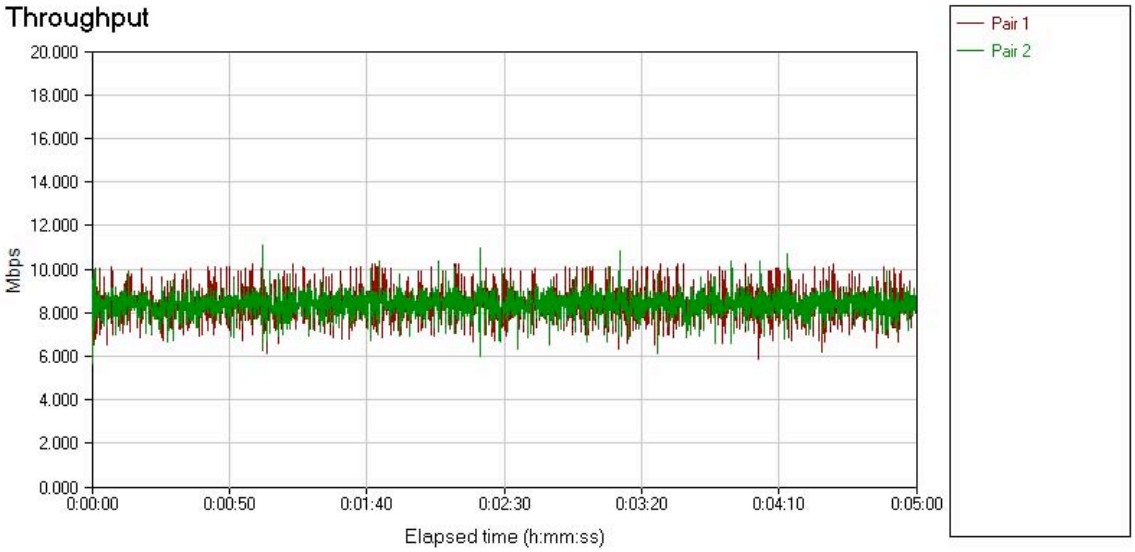
About Test Reporting: XR5 performance reporting was done using NetIQ Chariot and a test script which stresses equal amounts of TCIP/IP traffic in each direction of the link. Each test was completed over a 5 minute period. It is important to note that the potential throughput of XR5 is much greater than the reported results which are limited by the host platform processing performance. Also, the throughput pairs in the graphs must be combined for total throughput representation.

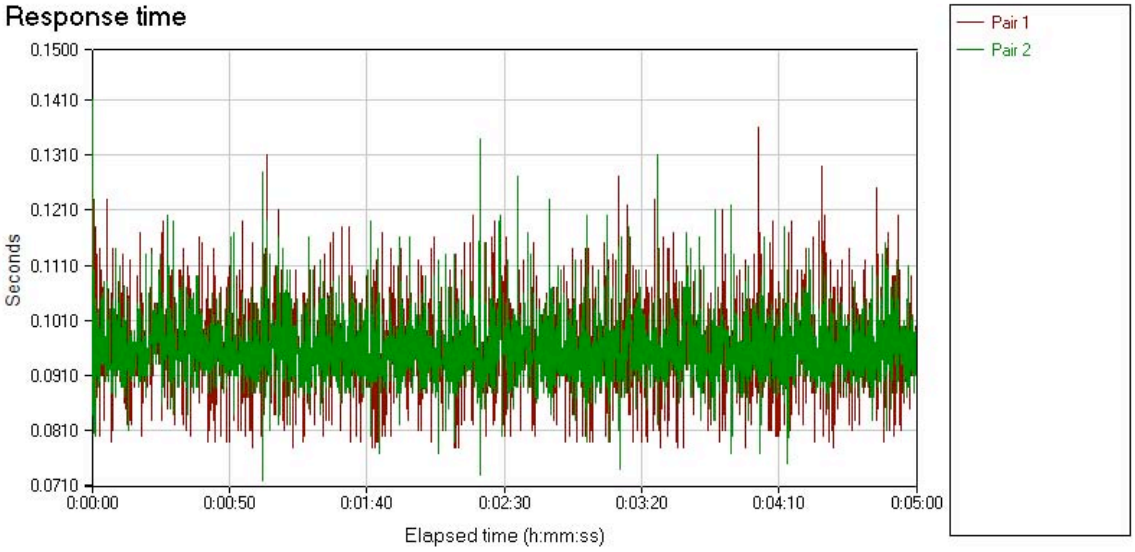
Hi-Signal Condition

-45dBm

Frequency	5825MHz
Mode	802.11a
Rate	Auto,54Mbps
Operation	WDS AP/Bridge

-44dBm





THROUGHPUT			
Group	Avg. (Mbps)	Min. (Mbps)	Max (Mbps)
Pair1	8.271	5.298	10.257
Pair2	8.285	3.376	11.268
Total	**16.445**	N/A	N/A
LOOP RESPONSE TIME			
Group	Avg. (Sec)	Min (Sec)	Max (Sec)
Total	0.097	0.071	0.237

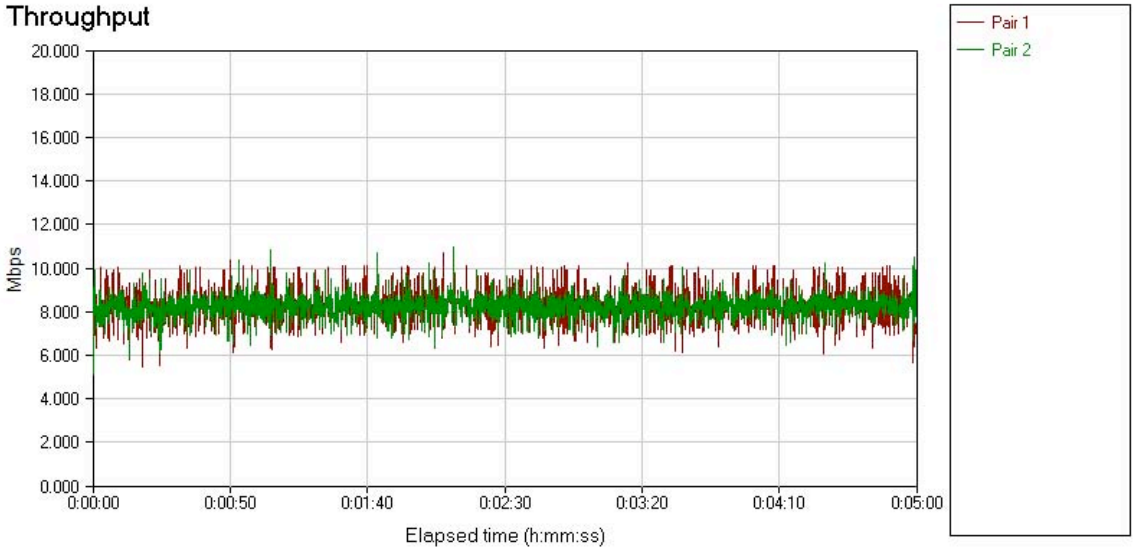
Mid Signal Condition

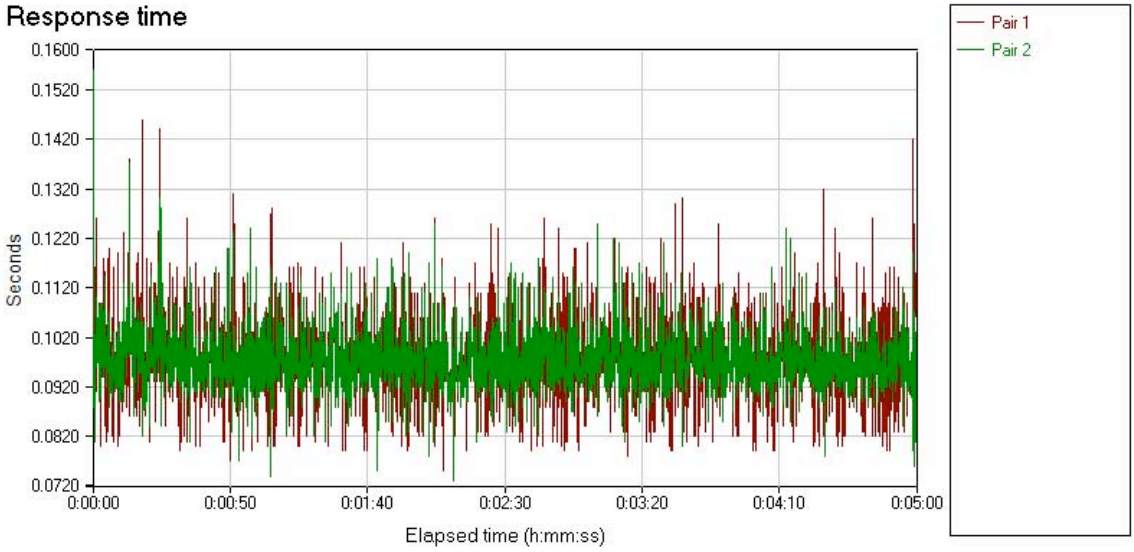
Mid Signal Condition

-65dBm

Frequency	5825MHz
Mode	802.11a
Rate	Auto,54Mbps
Operation	WDS AP/Bridge

-65dBm





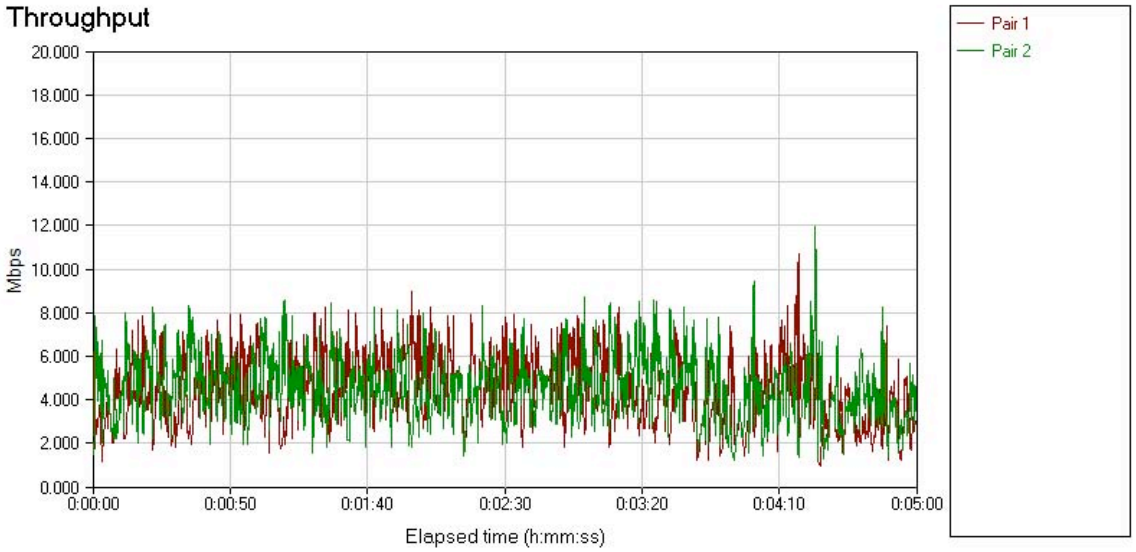
THROUGHPUT			
Group	Avg. (Mbps)	Min. (Mbps)	Max (Mbps)
Pair1	8.232	3.003	15.094
Pair2	8.224	1.192	10.959
Total	**16.345**	N/A	N/A
LOOP RESPONSE TIME			
Group	Avg. (Sec)	Min (Sec)	Max (Sec)
Total	0.097	0.053	0.671

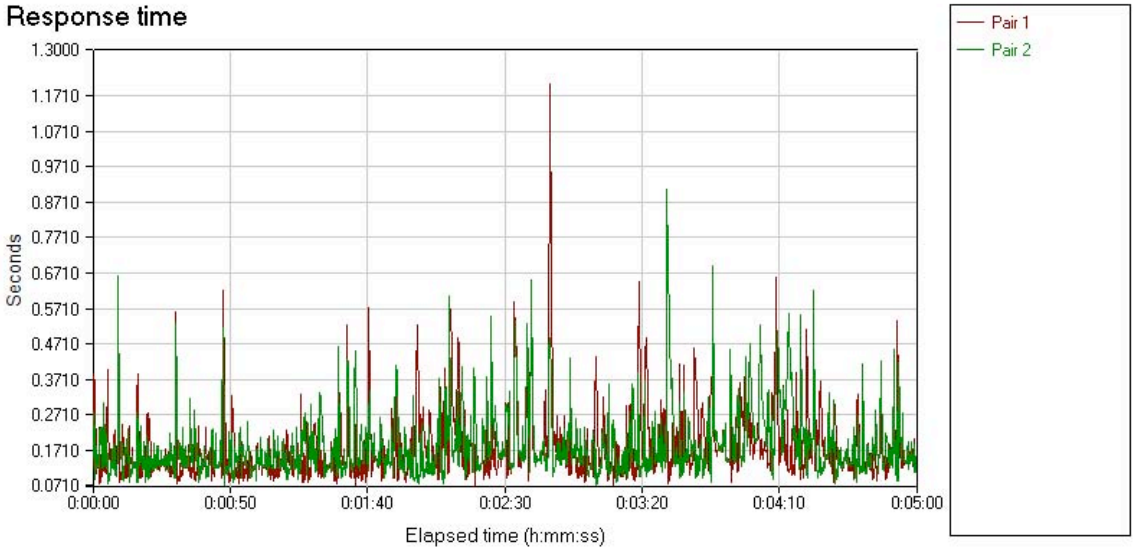
Low Signal Condition

-65dBm

-65dBm

Frequency	5825MHz
Mode	802.11a
Rate	Auto,54Mbps
Operation	WDS AP/Bridge



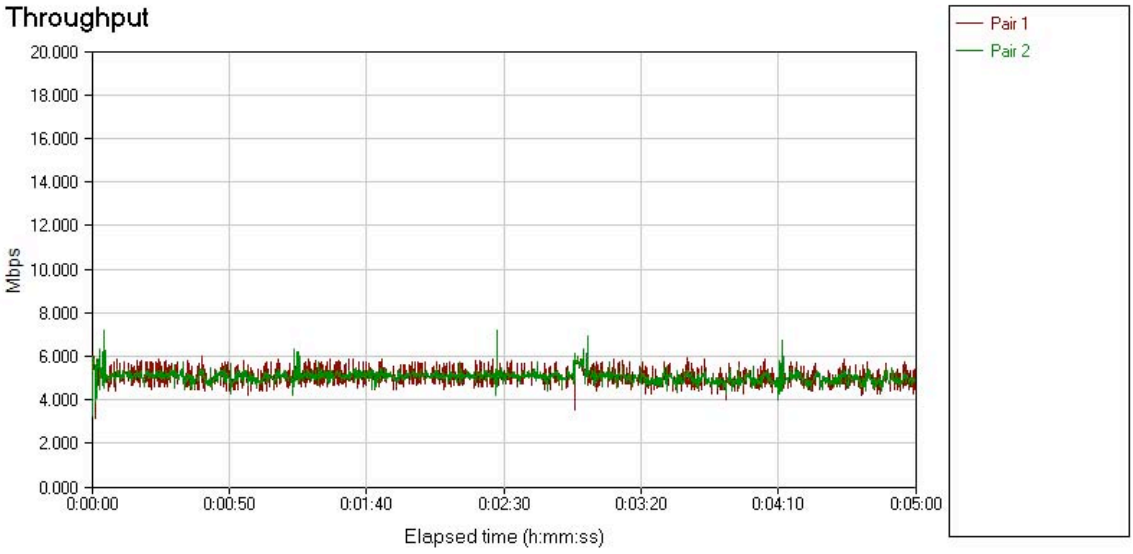


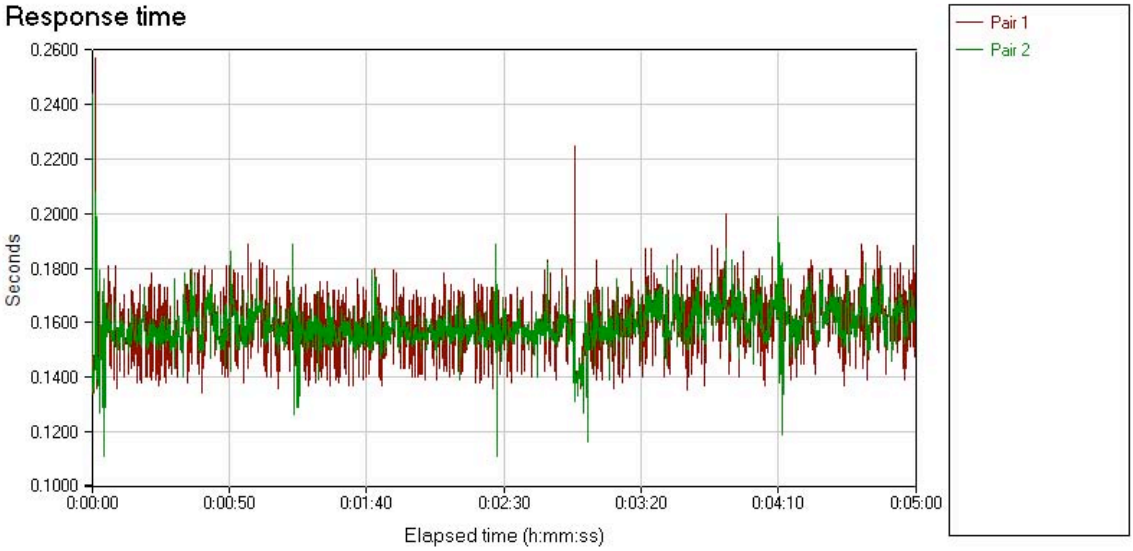
THROUGHPUT			
Group	Avg. (Mbps)	Min. (Mbps)	Max (Mbps)
Pair1	5.145	0.664	11.111
Pair2	4.985	0.882	10.959
Total	**10.09**	N/A	N/A
LOOP RESPONSE TIME			
Group	Avg. (Sec)	Min (Sec)	Max (Sec)
Total	0.158	0.072	1.205

Low Signal Condition, Fixed Max Rate

-85dBm **-86dBm**

Frequency	5825MHz
Mode	802.11a
Rate	Auto,18Mbps
Operation	WDS AP/Bridge

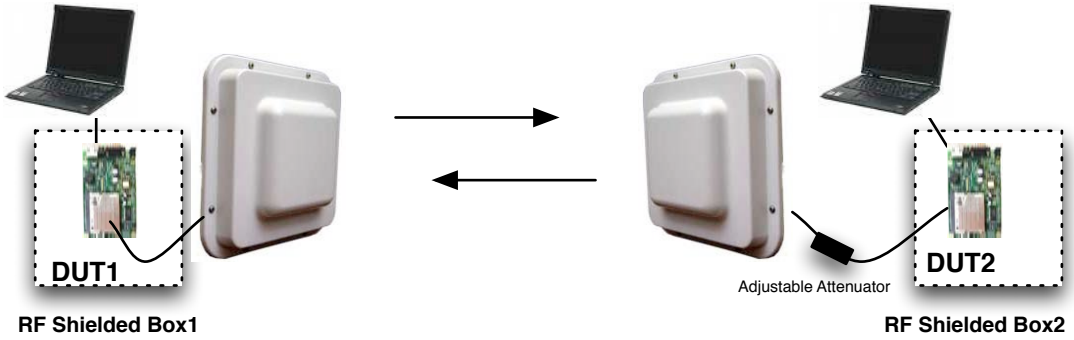




THROUGHPUT			
Group	Avg. (Mbps)	Min. (Mbps)	Max (Mbps)
Pair1	5.039	3.113	7.207
Pair2	5.043	3.113	5.97
Total	**10.042**	N/A	N/A
LOOP RESPONSE TIME			
Group	Avg. (Sec)	Min (Sec)	Max (Sec)
Total	0.159	0.111	0.257

Range Comparison

TestSetup: A few different 5GHz mini-PCI cards were tested against XR5 using a modeled range performance study. Under the same setup conditions, a pair of each card type was used in combination with Mikrotik RB112 boards and a link was established. Using the adjustable attenuator, path loss was introduced into the link and steadily increased until the link was lost. To prevent PCB coupling, each DUT was placed in a RF shielded box.



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