

# 802.11 Wi-Fi Physical Layer and Transmitter Measurements

		802.11b (HR/DSSSS)	802.11a and 802.11g (ERP)	802.11n (HT)	802.11ac (VHT)	Channel # / Center Frequency																																																																																																																																																																																																																																																																																																																																																															
Channel Allocation	2.4 GHz				<table border="1"> <thead> <tr> <th colspan="9">2.4 GHz</th> </tr> <tr> <th>Primary Channel</th> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th> </tr> <tr> <th>2nd Channel</th> <td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td> </tr> <tr> <th>Center Channel</th> <td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td> </tr> <tr> <th>Center Frequency</th> <td>2422</td><td>2427</td><td>2432</td><td>2437</td><td>2442</td><td>2442</td><td>2452</td><td>2457</td><td>2462</td> </tr> </thead> </table>		2.4 GHz									Primary Channel	1	2	3	4	5	6	7	8	9	2nd Channel	5	6	7	8	9	10	11	12	13	Center Channel	3	4	5	6	7	8	9	10	11	Center Frequency	2422	2427	2432	2437	2442	2442	2452	2457	2462	<table border="1"> <thead> <tr> <th colspan="10">802.11</th> </tr> <tr> <th>Bandwidth</th> <th>a</th> <th>n</th> <th>ac</th> <th>IEEE Channel Number</th> <th>36</th><th>40</th><th>44</th><th>48</th><th>52</th><th>56</th><th>60</th><th>64</th> <th>100</th><th>104</th><th>108</th><th>112</th><th>116</th><th>120</th><th>124</th><th>128</th><th>132</th><th>136</th><th>140</th> <th>149</th><th>153</th><th>157</th><th>161</th><th>165</th> </tr> </thead> <tbody> <tr> <td>20 MHz</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>40 MHz</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>80 MHz</td> <td></td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>160 MHz</td> <td></td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>		802.11										Bandwidth	a	n	ac	IEEE Channel Number	36	40	44	48	52	56	60	64	100	104	108	112	116	120	124	128	132	136	140	149	153	157	161	165	20 MHz	Yes	Yes	Yes																										40 MHz			Yes																										80 MHz				Yes																									160 MHz				Yes																																																																																																																																																																									
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<td>65.0 Mbps</td> <td>65.0 Mbps</td> <td>135.0 Mbps</td> <td>292.5 Mbps</td> <td>585 Mbps</td> </tr> <tr> <td>7</td> <td>64QAM</td> <td>5/6</td> <td>72.2 Mbps</td> <td>72.2 Mbps</td> <td>150.0 Mbps</td> <td>325 Mbps</td> <td>650 Mbps</td> </tr> <tr> <td>8</td> <td>256QAM</td> <td>3/4</td> <td>86.7 Mbps</td> <td>86.7 Mbps</td> <td>180.0 Mbps</td> <td>390 Mbps</td> <td>780 Mbps</td> </tr> <tr> <td>9</td> <td>256QAM</td> <td>5/6</td> <td></td> <td></td> <td>200.0 Mbps</td> <td>433.3 Mbps</td> <td>866.7 Mbps</td> </tr> </tbody> </table>						802.11n				802.11ac				MCS	Modulation	FEC Rate	Data Rate (SISO: 1 Stream, Short Guard Interval)	20 MHz	40 MHz	80 MHz	160 MHz	0	BPSK	3/4	7.2 Mbps	7.2 Mbps	15.0 Mbps	32.5 Mbps	65 Mbps	1	QPSK	1/2	14.4 Mbps	14.4 Mbps	30.0 Mbps	65 Mbps	130 Mbps	2	QPSK	3/4	21.7 Mbps	21.7 Mbps	45.0 Mbps	97.5 Mbps	195 Mbps	3	16QAM	1/2	28.9 Mbps	28.9 Mbps	60.0 Mbps	130 Mbps	250 Mbps	4	16QAM	3/4	43.3 Mbps	43.3 Mbps	90.0 Mbps	195 Mbps	390 Mbps	5	64QAM	2/3	57.8 Mbps	57.8 Mbps	120.0 Mbps	260 Mbps	525 Mbps	6	64QAM	3/4	65.0 Mbps	65.0 Mbps	135.0 Mbps	292.5 Mbps	585 Mbps	7	64QAM	5/6	72.2 Mbps	72.2 Mbps	150.0 Mbps	325 Mbps	650 Mbps	8	256QAM	3/4	86.7 Mbps	86.7 Mbps	180.0 Mbps	390 Mbps	780 Mbps	9	256QAM	5/6			200.0 Mbps	433.3 Mbps	866.7 Mbps	<table border="1"> <thead> <tr> <th colspan="6">5 GHz</th> </tr> <tr> <th>Channel Number</th> <th>Center Frequency</th> <th>U.S.</th> <th>Europe</th> <th>Japan</th> <th>China</th> </tr> </thead> <tbody> <tr><td>36</td><td>5180</td><td>Yes</td><td>Indoors</td><td>Yes</td><td>Yes</td></tr> <tr><td>38</td><td>5190</td><td>No</td><td>No</td><td>Client Only</td><td>No</td></tr> <tr><td>40</td><td>5200</td><td>Yes</td><td>Indoors</td><td>Yes</td><td>Yes</td></tr> <tr><td>42</td><td>5210</td><td>No</td><td>No</td><td>Client Only</td><td>No</td></tr> <tr><td>44</td><td>5220</td><td>Yes</td><td>Indoors</td><td>Yes</td><td>Yes</td></tr> <tr><td>46</td><td>5230</td><td>No</td><td>No</td><td>Client Only</td><td>No</td></tr> <tr><td>48</td><td>5240</td><td>Yes</td><td>Indoors</td><td>Yes</td><td>Yes</td></tr> <tr><td>52</td><td>5260</td><td>DFS</td><td>Indoors/DFS/TPC</td><td>DFS/TPC</td><td>Yes</td></tr> <tr><td>56</td><td>5280</td><td>DFS</td><td>Indoors/DFS/TPC</td><td>DFS/TPC</td><td>Yes</td></tr> <tr><td>60</td><td>5300</td><td>DFS</td><td>Indoors/DFS/TPC</td><td>DFS/TPC</td><td>Yes</td></tr> <tr><td>64</td><td>5320</td><td>DFS</td><td>DFS/TPC</td><td>DFS/TPC</td><td>Yes</td></tr> <tr><td>100</td><td>5500</td><td>DFS</td><td>DFS/TPC</td><td>DFS/TPC</td><td>Yes</td></tr> <tr><td>104</td><td>5520</td><td>DFS</td><td>DFS/TPC</td><td>DFS/TPC</td><td>Yes</td></tr> <tr><td>108</td><td>5540</td><td>DFS</td><td>DFS/TPC</td><td>DFS/TPC</td><td>No</td></tr> <tr><td>112</td><td>5560</td><td>DFS</td><td>DFS/TPC</td><td>DFS/TPC</td><td>No</td></tr> <tr><td>116</td><td>5580</td><td>DFS</td><td>DFS/TPC</td><td>DFS/TPC</td><td>No</td></tr> 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Number	Center Frequency	U.S.	Europe	Japan	China	36	5180	Yes	Indoors	Yes	Yes	38	5190	No	No	Client Only	No	40	5200	Yes	Indoors	Yes	Yes	42	5210	No	No	Client Only	No	44	5220	Yes	Indoors	Yes	Yes	46	5230	No	No	Client Only	No	48	5240	Yes	Indoors	Yes	Yes	52	5260	DFS	Indoors/DFS/TPC	DFS/TPC	Yes	56	5280	DFS	Indoors/DFS/TPC	DFS/TPC	Yes	60	5300	DFS	Indoors/DFS/TPC	DFS/TPC	Yes	64	5320	DFS	DFS/TPC	DFS/TPC	Yes	100	5500	DFS	DFS/TPC	DFS/TPC	Yes	104	5520	DFS	DFS/TPC	DFS/TPC	Yes	108	5540	DFS	DFS/TPC	DFS/TPC	No	112	5560	DFS	DFS/TPC	DFS/TPC	No	116	5580	DFS	DFS/TPC	DFS/TPC	No	120	5600	No	DFS/TPC	DFS/TPC	No	124	5620	No	DFS/TPC	DFS/TPC	No	128	5640	No	DFS/TPC	DFS/TPC	No	132	5660	DFS	DFS/TPC	DFS/TPC	No	136	5680	DFS	DFS/TPC	DFS/TPC	No	140	5700	DFS	DFS/TPC	DFS/TPC	No	149	5745	Yes	SRD	No	Yes	153	5765	Yes	SRD	No	Yes	157	5785	Yes	SRD	No	Yes	161	5805	Yes	SRD	No	Yes	165	5825	Yes	SRD	No
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1011 (11)	16QAM	3/4	36 Mbps																																																																																																																																																																																																																																																																																																																																																																		
0001 (1)	64QAM	2/3	48 Mbps																																																																																																																																																																																																																																																																																																																																																																		
0011 (3)	64QAM	3/4	54 Mbps																																																																																																																																																																																																																																																																																																																																																																		
802.11n				802.11ac																																																																																																																																																																																																																																																																																																																																																																	
MCS	Modulation	FEC Rate	Data Rate (SISO: 1 Stream, Short Guard Interval)	20 MHz	40 MHz	80 MHz	160 MHz																																																																																																																																																																																																																																																																																																																																																														
0	BPSK	3/4	7.2 Mbps	7.2 Mbps	15.0 Mbps	32.5 Mbps	65 Mbps																																																																																																																																																																																																																																																																																																																																																														
1	QPSK	1/2	14.4 Mbps	14.4 Mbps	30.0 Mbps	65 Mbps	130 Mbps																																																																																																																																																																																																																																																																																																																																																														
2	QPSK	3/4	21.7 Mbps	21.7 Mbps	45.0 Mbps	97.5 Mbps	195 Mbps																																																																																																																																																																																																																																																																																																																																																														
3	16QAM	1/2	28.9 Mbps	28.9 Mbps	60.0 Mbps	130 Mbps	250 Mbps																																																																																																																																																																																																																																																																																																																																																														
4	16QAM	3/4	43.3 Mbps	43.3 Mbps	90.0 Mbps	195 Mbps	390 Mbps																																																																																																																																																																																																																																																																																																																																																														
5	64QAM	2/3	57.8 Mbps	57.8 Mbps	120.0 Mbps	260 Mbps	525 Mbps																																																																																																																																																																																																																																																																																																																																																														
6	64QAM	3/4	65.0 Mbps	65.0 Mbps	135.0 Mbps	292.5 Mbps	585 Mbps																																																																																																																																																																																																																																																																																																																																																														
7	64QAM	5/6	72.2 Mbps	72.2 Mbps	150.0 Mbps	325 Mbps	650 Mbps																																																																																																																																																																																																																																																																																																																																																														
8	256QAM	3/4	86.7 Mbps	86.7 Mbps	180.0 Mbps	390 Mbps	780 Mbps																																																																																																																																																																																																																																																																																																																																																														
9	256QAM	5/6			200.0 Mbps	433.3 Mbps	866.7 Mbps																																																																																																																																																																																																																																																																																																																																																														
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Channel Number	Center Frequency	U.S.	Europe	Japan	China																																																																																																																																																																																																																																																																																																																																																																
36	5180	Yes	Indoors	Yes	Yes																																																																																																																																																																																																																																																																																																																																																																
38	5190	No	No	Client Only	No																																																																																																																																																																																																																																																																																																																																																																
40	5200	Yes	Indoors	Yes	Yes																																																																																																																																																																																																																																																																																																																																																																
42	5210	No	No	Client Only	No																																																																																																																																																																																																																																																																																																																																																																
44	5220	Yes	Indoors	Yes	Yes																																																																																																																																																																																																																																																																																																																																																																
46	5230	No	No	Client Only	No																																																																																																																																																																																																																																																																																																																																																																
48	5240	Yes	Indoors	Yes	Yes																																																																																																																																																																																																																																																																																																																																																																
52	5260	DFS	Indoors/DFS/TPC	DFS/TPC	Yes																																																																																																																																																																																																																																																																																																																																																																
56	5280	DFS	Indoors/DFS/TPC	DFS/TPC	Yes																																																																																																																																																																																																																																																																																																																																																																
60	5300	DFS	Indoors/DFS/TPC	DFS/TPC	Yes																																																																																																																																																																																																																																																																																																																																																																
64	5320	DFS	DFS/TPC	DFS/TPC	Yes																																																																																																																																																																																																																																																																																																																																																																
100	5500	DFS	DFS/TPC	DFS/TPC	Yes																																																																																																																																																																																																																																																																																																																																																																
104	5520	DFS	DFS/TPC	DFS/TPC	Yes																																																																																																																																																																																																																																																																																																																																																																
108	5540	DFS	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
112	5560	DFS	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
116	5580	DFS	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
120	5600	No	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
124	5620	No	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
128	5640	No	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
132	5660	DFS	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
136	5680	DFS	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
140	5700	DFS	DFS/TPC	DFS/TPC	No																																																																																																																																																																																																																																																																																																																																																																
149	5745	Yes	SRD	No	Yes																																																																																																																																																																																																																																																																																																																																																																
153	5765	Yes	SRD	No	Yes																																																																																																																																																																																																																																																																																																																																																																
157	5785	Yes	SRD	No	Yes																																																																																																																																																																																																																																																																																																																																																																
161	5805	Yes	SRD	No	Yes																																																																																																																																																																																																																																																																																																																																																																
165	5825	Yes	SRD	No	Yes																																																																																																																																																																																																																																																																																																																																																																
Data Rates and Modulation Types	<table border="1"> <thead> <tr> <th>Type of Measurement</th> <th>Measurement</th> <th colspan="5">802.11</th> <th>IEEE Standard Limit</th> </tr> <tr> <th></th> <th></th> <th>DSSS</th> <th>b</th> <th>a</th> <th>g</th> <th>n</th> <th>ac</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="2">Transmit Power</td> <td>Transmit Power</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td></td> <td>Country Dependent</td> </tr> <tr> <td>Transmit Power On/Off Ramp</td> <td>Yes</td> <td>Yes</td> <td></td> <td></td> <td></td> <td></td> <td>(10% - 90%) 2 us</td> </tr> <tr> <td rowspan="4">Transmit Spectral</td> <td>Transmit Spectrum Mask</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Standard Mask</td> </tr> <tr> <td>RF Carrier Suppression</td> <td>Yes</td> <td>Yes</td> <td></td> <td></td> <td></td> <td></td> <td>-15 dB</td> </tr> <tr> <td>Center Frequency Leakage</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td></td> <td>20 MHz: -15 dBc or +2 dB w.r.t. averages subcarrier power 40 MHz: -20 dBc or +0 dB w.r.t. averages subcarrier power</td> </tr> <tr> <td>Transmit Spectral Flatness</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td>Yes</td> <td>± 4 dBc, + 4/-6 dB (various BWs, 20 - 160 MHz)</td> </tr> <tr> <td rowspan="4">Transmit Frequency</td> <td>Transmission Spurious</td> <td></td> <td></td> <td>Yes</td> <td></td> <td></td> <td></td> <td>Country Dependent</td> </tr> <tr> <td>Out-of-band Spurious Emission</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td></td> <td></td> <td>Country Dependent</td> </tr> <tr> <td>Transmit Center Frequency Tolerance</td> <td>Yes</td> <td>Yes</td> <td></td> <td>Yes</td> <td></td> <td></td> <td>± 25 ppm (DSSS, b, g) ± 20 ppm (20 MHz and 10 MHz), ± 10 ppm (5 MHz)</td> </tr> <tr> <td>Symbol Clock Frequency Tolerance</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>Yes</td> <td>± 20 ppm (5 GHz band), ± 25 ppm (2.4 GHz band) same specifications as above</td> </tr> </tbody> </table>						Type of Measurement	Measurement	802.11					IEEE Standard Limit			DSSS	b	a	g	n	ac		Transmit Power	Transmit Power	Yes	Yes	Yes	Yes	Yes		Country Dependent	Transmit Power On/Off Ramp	Yes	Yes					(10% - 90%) 2 us	Transmit Spectral	Transmit Spectrum Mask	Yes	Yes	Yes	Yes	Yes	Yes	Standard Mask	RF Carrier Suppression	Yes	Yes					-15 dB	Center Frequency Leakage			Yes				20 MHz: -15 dBc or +2 dB w.r.t. averages subcarrier power 40 MHz: -20 dBc or +0 dB w.r.t. averages subcarrier power	Transmit Spectral Flatness			Yes			Yes	± 4 dBc, + 4/-6 dB (various BWs, 20 - 160 MHz)	Transmit Frequency	Transmission Spurious			Yes				Country Dependent	Out-of-band Spurious Emission	Yes	Yes	Yes	Yes			Country Dependent	Transmit Center Frequency Tolerance	Yes	Yes		Yes			± 25 ppm (DSSS, b, g) ± 20 ppm (20 MHz and 10 MHz), ± 10 ppm (5 MHz)	Symbol Clock Frequency Tolerance	Yes	Yes	Yes	Yes	Yes	Yes	± 20 ppm (5 GHz band), ± 25 ppm (2.4 GHz band) same specifications as above	<table border="1"> <thead> <tr> <th>Type of Measurement</th> <th>Measurement</th> <th colspan="5">802.11</th> <th>IEEE Standard Limit</th> </tr> <tr> <th></th> <th></th> <th>DSSS</th> <th>b</th> <th>a</th> <th>g</th> <th>n</th> <th>ac</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="2">Transmit Modulation</td> <td>Transmit Modulation Accuracy</td> <td>Yes</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Peak EVM&lt;0.35%</td> </tr> <tr> <td>Transmitter Constellation Error</td> <td></td> <td>Yes</td> <td></td> <td></td> <td></td> <td></td> <td>Peak EVM&lt;0.36%</td> </tr> <tr> <td rowspan="8"></td> <td>Modulation Type</td> <td colspan="6">Limits in dB</td> <td></td> </tr> <tr> <td>BPSK</td> <td>1/2</td> <td></td> <td>-5</td> <td></td> <td>-5</td> <td>-5</td> <td></td> </tr> <tr> <td>BPSK</td> <td>3/4</td> <td></td> <td>-8</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>QPSK</td> <td>1/2</td> <td></td> <td>-10</td> <td></td> <td>-10</td> <td>-10</td> <td></td> </tr> <tr> <td>QPSK</td> <td>3/4</td> <td></td> <td>-13</td> <td></td> <td>-13</td> <td>-13</td> <td></td> </tr> <tr> <td>16-QAM</td> <td>1/2</td> <td></td> <td>-16</td> <td></td> <td>-16</td> <td>-16</td> <td></td> </tr> <tr> <td>16-QAM</td> <td>3/4</td> <td></td> <td>-19</td> <td></td> <td>-19</td> <td>-19</td> <td></td> </tr> <tr> <td>64-QAM</td> <td>2/3</td> <td></td> <td>-22</td> <td></td> <td>-22</td> <td>-22</td> <td></td> </tr> <tr> <td>64-QAM</td> <td>3/4</td> <td></td> <td>-25</td> <td></td> <td>-25</td> <td>-25</td> <td></td> </tr> <tr> <td>64-QAM</td> <td>5/6</td> <td></td> <td>-27</td> <td></td> <td>-27</td> <td>-27</td> <td></td> </tr> <tr> <td>256-QAM</td> <td>3/4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-30</td> </tr> <tr> <td>256-QAM</td> <td>5/6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-32</td> </tr> </tbody> </table>						Type of Measurement	Measurement	802.11					IEEE Standard Limit			DSSS	b	a	g	n	ac		Transmit Modulation	Transmit Modulation Accuracy	Yes						Peak EVM<0.35%	Transmitter Constellation Error		Yes					Peak EVM<0.36%		Modulation Type	Limits in dB							BPSK	1/2		-5		-5	-5		BPSK	3/4		-8					QPSK	1/2		-10		-10	-10		QPSK	3/4		-13		-13	-13		16-QAM	1/2		-16		-16	-16		16-QAM	3/4		-19		-19	-19		64-QAM	2/3		-22		-22	-22		64-QAM	3/4		-25		-25	-25		64-QAM	5/6		-27		-27	-27		256-QAM	3/4						-30	256-QAM	5/6						-32																																																																																																																		
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Transmitter Measurements	<table border="1"> <thead> <tr> <th colspan="6">5 GHz</th> </tr> <tr> <th>Channel Number</th> <th>Center Frequency</th> <th>Korea</th> <th>Australia</th> <th>Brazil</th> <th></th> </tr> </thead> <tbody> <tr><td>36</td><td>5180</td><td>Yes</td><td>Yes</td><td>Indoors</td><td></td></tr> <tr><td>38</td><td>5190</td><td>Yes</td><td>No</td><td>Indoors</td><td></td></tr> <tr><td>40</td><td>5200</td><td>Yes</td><td>Yes</td><td>Indoors</td><td></td></tr> <tr><td>42</td><td>5210</td><td>Yes</td><td>No</td><td>Indoors</td><td></td></tr> <tr><td>44</td><td>5220</td><td>Yes</td><td>Yes</td><td>Indoors</td><td></td></tr> <tr><td>46</td><td>5230</td><td>Yes</td><td>No</td><td>Indoors</td><td></td></tr> <tr><td>48</td><td>5240</td><td>Yes</td><td>Yes</td><td>Indoors</td><td></td></tr> <tr><td>52</td><td>5260</td><td>Yes</td><td>DFS/TPC</td><td>Indoors</td><td></td></tr> <tr><td>56</td><td>5280</td><td>Yes</td><td>DFS/TPC</td><td>Indoors</td><td></td></tr> <tr><td>60</td><td>5300</td><td>Yes</td><td>DFS/TPC</td><td>Indoors</td><td></td></tr> <tr><td>64</td><td>5320</td><td>Yes</td><td>DFS/TPC</td><td>Indoors</td><td></td></tr> <tr><td>100</td><td>5500</td><td>Yes</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>104</td><td>5520</td><td>Yes</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>108</td><td>5540</td><td>Yes</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>112</td><td>5560</td><td>Yes</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>116</td><td>5580</td><td>Yes</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>120</td><td>5600</td><td>Yes</td><td>No</td><td>DFS</td><td></td></tr> <tr><td>124</td><td>5620</td><td>Yes</td><td>No</td><td>DFS</td><td></td></tr> <tr><td>128</td><td>5640</td><td>Yes</td><td>No</td><td>DFS</td><td></td></tr> <tr><td>132</td><td>5660</td><td>No</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>136</td><td>5680</td><td>No</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>140</td><td>5700</td><td>No</td><td>DFS/TPC</td><td>DFS</td><td></td></tr> <tr><td>149</td><td>5745</td><td>Yes</td><td>Yes</td><td>Yes</td><td></td></tr> <tr><td>153</td><td>5765</td><td>Yes</td><td>Yes</td><td>Yes</td><td></td></tr> <tr><td>157</td><td>5785</td><td>Yes</td><td>Yes</td><td>Yes</td><td></td></tr> <tr><td>161</td><td>5805</td><td>Yes</td><td>Yes</td><td>Yes</td><td></td></tr> <tr><td>165</td><td>5825</td><td>Yes</td><td>Yes</td><td>Yes</td><td></td></tr> </tbody> </table>						5 GHz						Channel Number	Center Frequency	Korea	Australia	Brazil		36	5180	Yes	Yes	Indoors		38	5190	Yes	No	Indoors		40	5200	Yes	Yes	Indoors		42	5210	Yes	No	Indoors		44	5220	Yes	Yes	Indoors		46	5230	Yes	No	Indoors		48	5240	Yes	Yes	Indoors		52	5260	Yes	DFS/TPC	Indoors		56	5280	Yes	DFS/TPC	Indoors		60	5300	Yes	DFS/TPC	Indoors		64	5320	Yes	DFS/TPC	Indoors		100	5500	Yes	DFS/TPC	DFS		104	5520	Yes	DFS/TPC	DFS		108	5540	Yes	DFS/TPC	DFS		112	5560	Yes	DFS/TPC	DFS		116	5580	Yes	DFS/TPC	DFS		120	5600	Yes	No	DFS		124	5620	Yes	No	DFS		128	5640	Yes	No	DFS		132	5660	No	DFS/TPC	DFS		136	5680	No	DFS/TPC	DFS		140	5700	No	DFS/TPC	DFS		149	5745	Yes	Yes	Yes		153	5765	Yes	Yes	Yes		157	5785	Yes	Yes	Yes		161	5805	Yes	Yes	Yes		165	5825	Yes	Yes	Yes		<p>DFS = Dynamic Frequency Selection                      TPC = Transmit Power Control                      SRD = Short Range Devices 25 mW max power</p>																																																																																																																																																																																
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Based on IEEE802.11-2012 standard.