

Decision Table

Conditions	V1	V2	V3	V4
[RSP]	(100, 300]	(100, 300]	[0, 100]	[0, 100]
[NO2]	[0, 1.5)	[0, 1.5)	[0, 1.5)	[0, 1.5)
[O3]	[0, 1.5)	[0, 1.5)	[0, 1.5)	[0, 1.5)
[SO2]	[0, 3) AND [SO2]>3-4[NO2]-2[O3]^2	[0, 3) AND [SO2]≤3-4[NO2]-2[O3]^2	[0, 3) AND [SO2]>3-4[NO2]-2[O3]^2	[0, 3) AND [SO2]≤3-4[NO2]-2[O3]^2
Actions				
HRSP	√	√	×	×
SAP	×	×	√	×
MAP	×	×	×	√

- Test cases are labeled in “Expected Result”:
- Acc: accept. They will be included in final test set.
 - Vx: duplicates. They are removed in final test set.
 - Rej: reject. They are ignored in final test set.

Total number of test cases in final test set = 24

Standard Table - V1

Boundary			Test Cases																	
Variable	Condition	Point	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18
[RSP]	> 100 ug/m^3	On	100																	
		Off		100.1																
	<= 300 ug/m^3	On			300															
		Off				300.1														
	Typical	In					200	200	200	200	200	200	200	200	200	200	200	200	200	200
[NO2]	>= 0 mg/m^3	On					0													
		Off						-0.001												
	< 1.5 mg/m^3	On							1.5											
		Off								1.499										
	Typical	In	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
[O3]	>= 0 mg/m^3	On									0									
		Off										-0.001								
	< 1.5 mg/m^3	On											1.5							
		Off												1.499						
	Typical	In	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5
[SO2]	>= 0 mg/m^3	On													0					
		Off														-0.001				
	> 3-4[NO2]-2[O3]^2 mg/m^3	On															0.5			
		Off																0.501		
	< 3 mg/m^3	On																	3	
		Off																		2.999
	Typical	In	1	1	1	1	1	1	1	1	1	1	1	1						
Expected Result			V3	Acc	Acc	Rej	V2	Rej	Rej	Acc	V2	Rej	Rej	Acc	V2	Rej	V2	Acc	Rej	Acc
HRSP			x	✓	✓		✓			✓	✓			✓	✓		✓	✓		✓
SAP			✓	x	x		x			x	x			x	x		x	x		x
MAP			x	x	x		x			x	x			x	x		x	x		x

Standard Table - V2

Boundary			Test Cases																	
Variable	Condition	Point	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18
[RSP]	> 100 ug/m^3	On	100																	
		Off		100.1																
	<= 300 ug/m^3	On			300															
		Off				300.1														
	Typical	In					200	200	200	200	200	200	200	200	200	200	200	200	200	200
[NO2]	>= 0 mg/m^3	On					0													
		Off						-0.001												
	< 1.5 mg/m^3	On							1.5											
		Off								1.499										
	Typical	In	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
[O3]	>= 0 mg/m^3	On									0									
		Off										-0.001								
	< 1.5 mg/m^3	On											1.5							
		Off												1.499						
	Typical	In	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5
[SO2]	>= 0 mg/m^3	On													0					
		Off														-0.001				
	≤3-4[NO2]-2[O3]^2 mg/m^3	On															0.5			
		Off																0.501		
	< 3 mg/m^3	On																	3	
		Off																		2.999
	Typical	In	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2						
Expected Result			V4	Acc	Acc	Rej	Acc	Rej	Rej	V1	Acc	Rej	Rej	V1	Acc	Rej	Acc	V1	Rej	V1
HRSP			x	✓	✓		✓			✓	✓			✓	✓		✓	✓		✓
SAP			x	x	x		x			x	x			x	x		x	x		x
MAP			✓	x	x		x			x	x			x	x		x	x		x

Standard Table - V3

Boundary			Test Cases																	
Variable	Condition	Point	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18
[RSP]	≥ 0 ug/m^3	On	0																	
		Off		-0.1																
	≤ 100 ug/m^3	On			100															
		Off				100.1														
	Typical	In					50	50	50	50	50	50	50	50	50	50	50	50	50	50
[NO2]	≥ 0 mg/m^3	On					0													
		Off						-0.001												
	< 1.5 mg/m^3	On							1.5											
		Off								1.499										
	Typical	In	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
[O3]	≥ 0 mg/m^3	On									0									
		Off										-0.001								
	< 1.5 mg/m^3	On											1.5							
		Off												1.499						
	Typical	In	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5
[SO2]	≥ 0 mg/m^3	On													0					
		Off														-0.001				
	>3-4[NO2]-2[O3]^2 mg/m^3	On															0.5			
		Off																0.501		
	< 3 mg/m^3	On																	3	
		Off																		2.999
	Typical	In	1	1	1	1	1	1	1	1	1	1	1	1						
Expected Result			Acc	Rej	Acc	V1	V4	Rej	Rej	Acc	V4	Rej	Rej	Acc	V4	Rej	V4	Acc	Rej	Acc
HRSP			x		x	√	x			x	x			x	x		x	x		x
SAP			√		√	x	x			√	x			√	x		x	√		√
MAP			x		x	x	√			x	√			x	√		√	x		x

Standard Table - V4

Boundary			Test Cases																	
Variable	Condition	Point	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17	T18
[RSP]	$\geq 0 \text{ ug/m}^3$	On	0																	
		Off		-0.1																
	$\leq 100 \text{ ug/m}^3$	On			100															
		Off				100.1														
	Typical	In					50	50	50	50	50	50	50	50	50	50	50	50	50	50
[NO2]	$\geq 0 \text{ mg/m}^3$	On					0													
		Off						-0.001												
	$< 1.5 \text{ mg/m}^3$	On							1.5											
		Off								1.499										
	Typical	In	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
[O3]	$\geq 0 \text{ mg/m}^3$	On									0									
		Off										-0.001								
	$< 1.5 \text{ mg/m}^3$	On											1.5							
		Off												1.499						
	Typical	In	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5					0.5	0.5	0.5	0.5	0.5	0.5
[SO2]	$\geq 0 \text{ mg/m}^3$	On													0					
		Off														-0.001				
	$\leq 3-4[\text{NO}_2]-2[\text{O}_3]^2 \text{ mg/m}^3$	On															0.5			
		Off																0.501		
	$< 3 \text{ mg/m}^3$	On																	3	
		Off																		2.999
	Typical	In	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2						
Expected Result			Acc	Rej	Acc	V2	Acc	Rej	Rej	V3	Acc	Rej	Rej	V3	Acc	Rej	Acc	V4	Rej	V4
HRSP			x		x	√	x			x	x			x	x		x	x		x
SAP			x		x	x	x			√	x			√	x		x	√		√
MAP			√		√	x	√			x	√			x	√		√	x		x