

Safe Watchdog Manager

Author: NNN ; A B
Security: = ; =
Document number: >'M @R'M1***+
Version: , (- (2
Date: , 0(* / (* +.
Status: ; FG
MKS ID: , , 2. * -

Project Name: M Q G
Doc. Name: M G 9 9 "M#. ?/

Version: , (-, 2
Doc. No: >'M @R'M1'***+

Revision History

[illegible]

3. "" #+* / #3-0*

(* * . , P , (- (+ 3 . "" / * # 23 * 1 # " / N # 1 " " # , ;

+- (* / (, *. , P, (- (+ 3. ""/ * #2, *; # 21 +*

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

+/(*/(/ *+. P, (- (/ + C

0, , 3* 9

©

+/(*/(/ *+. P, (- (/ , C

/ - 0. 0 9

©

+/(*/(/ *+. P, (- (/ - C

0, , 3* 9

©

+/(*/(/ *+. P, (- (/ . C

/ 312/ 80, / 2380, / 3+ 9

©

+0(*(/ *+. P, (- (/ / C

0, 1, . 9

©

, , (*(/ *+. P, (- (/ 0 C

0- +- +4F 9 L

©

, - (*(/ *+. P, (- (/ 1 C

0, 1 9

©

, 0(*(/ *+. P, (- (/ 2 C

4, +0280, / 3+8/- 0. 0&/ * 2-- &/ 22. ,

Table of Contents

[illegible]

Project Name: M Q 9 G
Doc. Name: M G

Version: , (- (, 2
Doc. No: >'M @R'M1'***+

[illegible]

Project Name: M Q G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+ /

= 4	=	E 4	G4	/,/,*/
LEGAL DISCLAIMER NB? G@ LG; NC H A E?H G NBMM @NS G; HO; F M A E?H; MMO I LN @ L NB? GN?AL; NC HI @NB? NNN?=B M @NS GI >OF? GNI ; MSN?G I HFS; H> MB; FF HI N<? L?A; L>?>; M; HS>?M=LCNC HI L Q; LL; HNS I @ =?LN; G @OH=NC H; FNS&=I H>NC H I L KQ; FNS I @NB? NNN?=B M @NS GI >OF?(NB? L?=C OHNI @NBMM @NS G; HO; F GOMN P?L @; HS @OH=NC H>?M=LG?> B?L?G G NB? L?; F; FG; NC H(NNN?=B LI PG?MNB? M @NS G; HO; F @ L NB? M @NS GI >OF? ; M M ; H> Q NB; FF @ OFNM; H> B?L?<S>M=F; GM; FF Q; LL; HNCMI @ HS E G>&?NB?L ?R L?MM?>I L G FG>&G=FO>GIA <ON HI NFGG?> NI NB? G FG> Q; LL; HNCMI @G?L=B; HN; <FNS ; H> @NH?MM @ L ; ; LNG OF; L OL I M?& ==OL; =S I L =I G F?N?H?MM& L I @ ?MOFNM NI NB? ?RN?HN ?LGON?> <S; FG; <F? F; Q (NB? ?HNC? L ME& MNI NB? KO; FNS&OM? I L ?L @ LG; H=? I @NB? M @NS G; HO; F&L?G; GIMQ NB NB? L?=C OHN(NI NB? G; RGOG ?RN?HN ?LGON?> <S; FG; <F? F; Q NNN?=B MB; FF G HI ?P?HN <? FC <F? @ L ; HS M ?=CF&G=G?HN; F&G>G?=NI L =I HM?KO?HNC F>; G; A?MQ B; NM ?P?L "G=FO>GIA <ON HI NFGG?> NI FI MMI @; N; &; N; <?GAL?H>?L?> G; ==OL; N?&<OMG?MM GN?LLO NC HI L ; HS I NB?L ?=OHCLSI L I NB?L FI MMQB; NM ?P?L#; LMGIA I ONI @ NB? OM? I L G; <FNS NI OM? NB? M @NS G; HO; F&P?H @NNN?=B B; M<??H; >P M?> I @ NB? I MGC FNS I @MO=B >; G; A?M(NNN?=B G; E?MHI Q; LL; HNS I @NM LI >O=NM&G=FO>GIA <ON HI NFGG?> NI NB? G FG> Q; LL; HNCMI @G?L=B; HN; <FNS; H> @NH?MM @ L ; ; LNG OF; L OL I M?; H> NI NB? G; RGOG ?RN?HN ?LGON?> <S; FG; <F? F; Q >M=F; GM; FF FC<FNCMI L >; G; A?ML?MOFN G I @ I G I L ; LMGIA I ONI @NB?; FG; NC HI L OM? I @NB?M? LI >O=NM(

= 4	=	E 4	G4	/,/,+3
Legal Notice N 9 9 C 9 9 9 A C N C C = 9 9 NNN C C NNN C C (C) C N 9 C C 9 9 C & 9 C C 9 C & C C & C & C 9 & C 9 & 9 C C & 9 C NNN (C N 9 9 C C 9 9 & 9 C C 9 & C C "C 9 & 9 C 9 9 NNN C C (H 9 C C C C9 NNN & C C C & 9 C & 9 9 C N 9 C C 9 C (C N 9 9 9 C 9 9 9 9 MC 9; 9 (, & 9 (

= 4	=	E 4	G4	/,/,+3
We Listen to Your Comments				

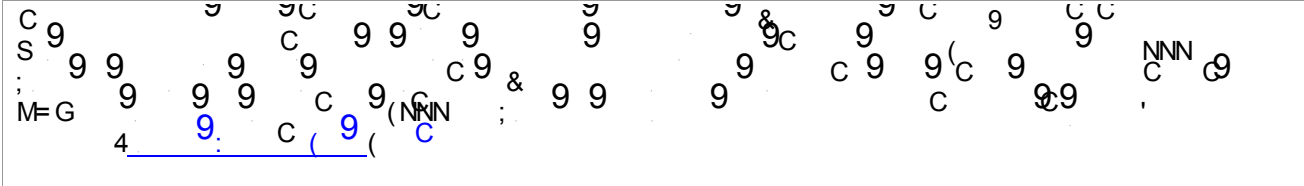
Project Name: M Q 9 G C

Doc. Name: M G

Version: , (- (, 2

Doc. No: >'M @R'M1****+

0



1 Purpose of this Document

[illegible]

2 Introduction

2.1 Target Audience and Responsibilities

= 4	=	E 4	G 4	, , 2/ , -
N	M C 9 C	# 9 C (N G 9 9 & C		
	9 9 MQ CG			

= 4	L	E 4	G 4	, , 2/ , /
F 4		M 4		
L N 4		L N 4		
N	C C	C C		M , 0, 0, "
UM , 0, 0, #				
G 9 9 &	C 9 C 9 9 C			
• ; ONI M L	& C C			
• ; HMC	C & C			
• MQ G O G	UN Q > AG OG #			

= 4	L	E 4	G 4	, , 2/ , 3
F 4		M 4		
L N 4		L N 4		
N	C C	C C C M G		
(

= 4	L	E 4	G 4	, , 2/ - 1
F 4		M 4		
L N 4		L N 4		
N	9 9 C	C		
• M G	9 9 MQ C" UN Q > A @ MG #			
• 9 M 9 G	9 C 9 C MQ C " C C C 9 M 9 G C # (M G			
	9 9 C 9 C 9 C L GM (

2.2 Structure of this Document

= 4	L	E 4	G 4	, , 2/ , 1
F 4		M 4		
L N 4		L N 4		
L 9	9 C C L 9 C (9 C C C			
	C C = 9 C			

= 4	=	E 4	G 4	- +, ** -
H 4N				& C

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

3

MQ G (
= 4	=	E 4	4	- + 2 3									
<div>H 4L</div> <div><div><div>C MQ G</div><div>C 9 9 9 MQ G 4 C 9 9 9 MQ C G 9</div><div>C MQ G C 9 9 9 K G 9 C C (9 9</div></div><div>9 & M C C C C</div></div>													
= 4	=	E 4	4	///0. /									
<div>N</div> <table><tr><th>Key Word</th><th>Description</th></tr><tr><td>G &M &L 9 C &C 9 C 9 &C C</td><td>L 9 (C</td></tr><tr><td>M 9</td><td>L 9 C 9 (C</td></tr><tr><td>G</td><td>L 9 9 C</td></tr></table>						Key Word	Description	G &M &L 9 C &C 9 C 9 &C C	L 9 (C	M 9	L 9 C 9 (C	G	L 9 9 C
Key Word	Description												
G &M &L 9 C &C 9 C 9 &C C	L 9 (C												
M 9	L 9 C 9 (C												
G	L 9 9 C												
table 1													

3 Terms

= 9 4	= 9	E 9 4	G 4	,, 2/0/
M 9 C	" 9 # C (C	9 9 9 C 9= 9 9 C		
9 = 9	; 9 = 9 9 9 9 9 9 9	9 9 9 9 9 9 9 9 9 9		
= 9	M Q 9 G M C ? C 9 9	9 9 9 9 9 9 9 9 9 9		
= 9 9 N 99 C	99" > P = 9 9 # C C M C	9 9 9 9 9 9 9 9 9 9		
> G 9 9	9 9 = 9 C "	9 9 9 9 9 9 9 9 9 9		
? = 9	N = ? = 9 M C ? (	9 9 9 9 9 9 9 9 9 9		
? 9? 9 CC	N ? (9? 9 N	9 9 9 9 9 9 9 9 9 9		
MQ G @ > 9 N	N Q G(N Q>AG FI =; F MN; NOM I E 9 9 9 C C	9 9 9 9 9 9 9 9 9 9		
MQ G @ L 9 N	N 9 MQ G = 9 MQ G @ > 9 N	9 9 9 9 9 9 9 9 9 9		

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

++

[illegible]

Project Name: M Q G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

+

M	
L = C	
N N	
N @	
Q 9" #	
Q > G 9	
Q > N G 9 C C	

table 2

Project Name: M Q G C

Version: , (-, 2

Doc. Name: M G

Doc. No: >'M @R'M1****+

+-

4 Notations

= 4

=

E 4

G 4

, , 20*3

Notation	Description
text	C platform 9 9 9"C# C (?g(4C Q platform C "#&
M- 4text	N ; M- 4 C 9; ONI M L - (+ C 9 9 (C
M 4text	N ; M 4 C 9; ONI M L . (* C 9 9 (C

table 3

Project Name: M Q G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

+

5 Abbreviations

= 4	=	E 4	G 4	,, 2/. 3
C	ONI M L - (+ " #			
M-	ONI M L . (* " #			
M	ONI M L . (* " #			
ME	M C F			
ONI M L	I M ;			
<MQ	< M " ; ONI M L #			
< G	<MQ			
=	=			
>?G	> ? G			
>?N	> ? N			
?==	? = " #			
?=O	? = O			
M	C I C M C			
G=O	G O C C C			
G O	G O (C G C (C C			
G G	G G " G C G C # C			
K G	K G "M #			
LN?	L 'N ?			
M=	M =			
M G	M G C ; ONI M L . (*			
M?	M ?			
MG	M G			
MQ '= &MQ =	M =			
MQ	M Q > " NNN # C C			
MQ G	M Q G " NNN # C C			
MQ C	M Q C " NNN # C			
Q >	Q			
Q G	Q G ; ONI M L . (*			
Q C	Q C ; ONI M L . (*			

table 4

Project Name: M Q G

Doc. Name: M G

Version: , (-, 2

Doc. No.: >'M @R'M1****+

+/

6 Safe Watchdog Manager Overview

= 4	= G	E 4	G 4	, , 20+-
<div>@ 9 9 C 9 C 9 C</div> <div><div><div>• MQ G&</div><div>• 9 MQ G M 9 9 & C</div><div>• MQ G A 9 & C C</div><div>• MQ 9 G P C C</div></div><div><div>• 9 MQ G 4 W I N C M C G 9 4</div><div>• 9 MQ G 4 W I N C Q > A G O G &</div><div>• 9 MQ C 4 W I N C Q > A @ O G W I N Q > A @ M G & 9 9 L C 9</div></div><div><div>(</div></div></div>				
= 4	= G	E 4	G 4	// 0/*
<div>N M Q 9 G</div> <div>N MQ G 9 9 ; O N I M L - (+ C ; O N I M L . (* (+</div> <div>N MQ G 9 ; O N I M L (9 C 9 9 C C C</div> <div>Q > A G ; O N I M L . (N M Q C G = 9 9 A 9 (C</div>				
= 4	= G	E 4	G 4	// 3220
<div>N MQ G</div> <div>(B 9 9 9 MQ G 9 9 ; O N I M L - (+ 9 ; O N I M L . (* (+</div> <div>9 9 9 C 9 9 ; O N I M L (9 C 9 9 C C C</div> <div>9 C C C M G (C & 9 C C C</div>				
= 4	= G	E 4	G 4	/ 0, 10.
<div>N M 9 G 9 9 MQ 9 C 9 MQ G ; O N I M L - (+</div> <div>C 9 ; O N I M L - (+ Q 9 G (</div> <div>N 9 C Q > A G ; O N I M L - + R = I G ; N G & O N S (N C (C</div> <div>M N > I @ @ I ? = O & C Q G M ; ; C C</div>				

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

+0

7 System Assumptions

= 4	=	E 4	4	, 1*0--
N MQ G 9	(N 9 9 C C 9 9 9 9 "M? # 9 C	M 9?	9 9 9 9	9 C
, 0, 0, (N				(
N 9 9	9 "C 9 C C 9 (@ 9 9 # C CC M C 9 C			
;	> 9 9 (

= 4	L	E 4	4	, 2, 2, 1
F 4		M 4		
L N 4	GEMG , 2- + /	L N 4		
N 9	C *# C C 9 9 C 9 9 C			(

= 4	=	E 4	4	, 2, 2, 3
N MQ G 9	9 9 (9 C	(N C	9 C	9
N MQ G = 9	9 9 C		C 9 9	(C
N MQ G				

= 4	L	E 4	4	, 2, 2* /
F 4		M 4		
L N 4	GEMG , 0, 030& GEMG , 0- *3/	L N 4		
N G=O				(

= 4	L	E 4	4	, 2, 12/
F 4		M 4		
L N 4	GEMG , 0, 02, & GEMG , 0, 03* & GEMG , 0- *23& GEMG , 0- *3+& GEMG , 2- / * . & GEMG , 2- -33& GEMG , 2- / *2	L N 4		
N 9	! 9 ; ME(C C			C 9 C C 9 C 9 C 9 C
N 9	4 C C 9 C 9 9 9 " , 2, 2*1#&			C 9 C 9 C 9 C C
• 9	C C 9 C 9 9 9 " , 2, 13/ #&			C 9 C 9 C 9 C C
• 9	9 C 9 C G=O 9 9 ((' & C &			9 9 9 9 9 9 9 9
• 9	9 "((BQ 9) 9 ((' & C &			9 9 9 9 9 9 9 9
?== &(((#&				; ME 9 C
• (

Project Name: M Q G C

Version: , (-, 2

Doc. Name: M G

Doc. No: >'M @R'M1****+

+1

= 4	L	E 4	4	, 313. 0
F 4		M 4		
L N 4		L N 4		
N				

= 4	=	E 4	4	, 313. 2
M				
? 9 9 9 (C				

= 4	L	E 4	4	, 2, 2*1
F 4		M 4		
L N 4	GEMG , 0- ++/ & GEMG , 2- / - 0& GEMG , 0++3,	L N 4		
N 9 9				

= 4	=	E 4	4	, 2, 2*3
N 9 MQ G				
G O(

= 4	L	E 4	4	, 2, 13/
F 4		M 4		
L N 4	GEMG , 0, 00+& GEMG , 0- *33& GEMG , 0- +*3& GEMG , 2- / * . & GEMG , 2- / *2	L N 4		
N				

= 4	=	E 4	4	/ 0+221
N				
N				

= 4	=	E 4	4	, 2, 131
; Q>				
Q>				

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

+2

= 4	L	E 4		4	- +/ - +1
F 4		M 4			
L N 4		L N 4			
N G=O (C					

= 4	=	E 4		4	- +/ - +3
N C C ((G=O(

= 4	L	E 4		4	, 2, 13+
F 4		M 4			
L N 4	GEMG , 0, 01.	L N 4			
C 9 (C MQ G&					

= 4	=	E 4		4	, 2, 13-
N MQ9 G 9 C 9 C 9 Q> C 9 Q9 Q> C (C C					
H 9 5N MQ G 9 9 Q> C 9 9 (MQ G= 9 9 (

= 4

L

E 4

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

+3

=	9	4	=	9		E	9	4		9	4	, 0-31/					
N			9	9	C		9	9		C	"	(	9	#	9	C	4
.			9		9	C	9	MQ	9	9	9	9	9	9	9	C	C
.			9		9	9			9	9	C	C	9	(		C	
N							9		9	9	G	C	"	#			
Q>AG ?																	
H	9	4N	9		9	9	9	9	9	9	9	9	9	9	9		C
	9		9		9			"	C	9							

7.1 Assumptions in this Document

Requirement	Description
, - +3** &, - *3/1	=
, 0*, 1* &, - +2, / &, 3, ++&, - 0130&, - *13-	K
, - *. 3.	MQ G MQ
, 0*, 3* &, - +. *- &, - +. +3	K M?
, 0*, *1&, - +2, - &, - +/. 1&, - +/. 3&, - +0*3	Q> Q>
, - +, 11&, - +, 2+&, - +. /. &, - +. 0, &, - +31, &, - +, *-	G &
, - +. 2*	G
, - +, *1	Q G G @ "#

table 5

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

,

*

8 S-WdgM Function Requirements

= 4	=	E 4	4	, 1*0//
N	9	C MQ GM	(
N	UN Q>AG NML	UN Q>AG M>	(
M	MQ G C	C9 C C	9 C 9 C C C	
	MQ GL	(

= 4	=	E 4	4	, 2, 2++
"MQ GL	# 9 C			
N MQ G	9C 9 9	4 C	9 9	(C
• N	9C 9	9 9	9 9	(C
• N				

= 4	=	E 4	4	, 2, 2+-
N MQ G	99	9 9 C 9	9 9 C	(
N	9 9	9 9 4	9 9 C	
•	9 9	9 9 9	9 9 C	
•	9 9	9 9 9	9 9 C	
•	9 9	9 9 9	9 9 C	
•	9 9	9 9 9	9 9 C	
•	9 9	9 9 9	9 9 C	

= 4	=	E 4	4	, 2, 2+/-
"MQ GL	# C			
N MQ G	9C 9	MQ	9 9 9	(C
N				

= 4	=	E 4	4	, 2, 2+1
N MQ G	9 C 9 C	Q> C	Q> C (C	C

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+ , +

9 S-WdgM Configuration

= 4	=	E 4	G 4	,, 20, 3
N MQ 9 9 = 9	C 9	C 9	MQ G C	MQ C G
A 9	C 9	C 9	C 9	C
N 9	C 9	C 9	C 9	C

= 4	=	E 4	G 4	,, 20- +
@ 9	C 9	C 9	C 9	C
• 9	C 9	C 9	C 9	C
• 9	C 9	C 9	C 9	C
UNN Q > AG OG (

9.1 Configuration Check-List

= 4	=	E 4	G 4	,, 21+-
N MQ GA 9	C 9	C 9	C 9	C
N MQ 9 G = 9	C 9	C 9	C 9	C
N 9	C 9	C 9	C 9	C
MQ C GA				

= 4	L	E 4	G 4	, - +3**
F 4		M 4		
L N 4		L N 4		
C 9 9	MQ G C	C !	C &	C C C

9.1.1 General Requirements

= 4	L	E 4	G 4	,, 21+1
F 4		M 4		
L N 4		L N 4		
N	C 9 C	C 9	C 9 C 9 C 9 C	

= 4	L	E 4	G 4	, 0*.1*
F 4		M 4		
L N 4		L N 4		
N	9	MQ G	C (C	MQ G

= 4	=	E 4	G 4	/... 3/
N	MQ G	C	C	

= 4	=	E 4	G 4	, 0*.10
?	4C	A M	C	"# A C

Project Name: M Q G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+

MQ G & MQ G KG (
= 4	L	E 4		4	, 2 +21
F 4		M 4			
L N 4		L N 4			
N99?=O RGF 9 ; ONI M L 9(N 9C ; ONI M L C 9 C					
, - + *1(
= 4	=	E 4		4	, 2 /+1
N 9	RGF				

9.1.2 Pre-Compile Settings

= 4	L	E 4		4	, , 21, ,
F 4		M 4			
L N 4		L N 4			
N9 4 C ?=O 9 C C &					
Field		Feature			
Q GP C		? P ; C			
Q G> ?		? > 9 C			
Q G> L		? >?G 9 9 (9 9 C			
Q G> < 9		= 9 9 Q G M G "# 9 9 9(9 G G @ 9 "# 9 9 H 4N ; ONI M L -(+ 9 Q G M C G "# 9 9 (C			
Q GC L		? 9 9 & > Q 9 9 9 9 M 9 9 C			
Q GI G ?		? 9 9 Q> (
Q GO I M C		AS34= M G ? Q G "# M C G ? Q G "# AS44= M G ? Q G Q>AG ?R=FOME? ; L?; *"# M G ? 9 Q G Q>AG ?R=FOME? ; L?; *"# N C			
Q GM L		= G L "# Q>C Q> C C C			
Q GN I =		= 9 9 C 9 9 (C			
Q G? >		? 9 9 M? (
Q GM = H		C 9 9 9 9 9 C (
Q GO L		O LN?'			
Q G> M 9 L 9 C		G >?G Q>AG AFI <; F MN; NOM MNI ?>			
Q G@ = ; = 9 C L		> 9 9 9 = 9 MFC C C 9 Q G G @ 9 "#			

table 6

Project Name: M Q 3 G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+ , -

= 4	L	E 4	G 4	, , 222-
F 4		M 4		
L N 4		L N 4		
N Q GN M C C C C C C 4 C				
WdgMTimebaseSource		Description		
Q>AG GN?LH; F M @Q; L? NGE "*" #		N 9 9 9 > G C C (Q G G @ 9 "# 9 (
Q>AG GN?LH; F B; L>Q; L? NGE "+" #		N 9 9 9 > G C C (Q G G @ 9 "# 9 (
Q>AG ?RN?LH; F NGE ", #		N 9 9 9 > G C C (Q G O N = 9 "# 9 9 (N 9 MQ G(

table 7

= 4	= 4	E 4	G 4	, -3+01
N Q GN M Q G 9 (9 C 9 C C C	Q>AG GN?LH; F B; L>Q; L? NGE& C C 9 (C			

= 4	L	E 4	G 4	, -, +/
F 4		M 4		
L N 4		L N 4		
C MQ G C C C 9 C 9 & 9 C C 9 (G=O! C				

= 4	= 4	E 4	G 4	, 1*03-
C 9 (C C C & MQ G C G=O! C				

= 4	L	E 4	G 4	, - 2302
F 4		M 4		
L N 4		L N 4		
CO l g M & C C C C C C				
• A 9 M 9 C "# C C				
• A 9 L 9 C "# C C				

= 4	L	E 4	G 4	, 0*. 3*
F 4		M 4		
L N 4		L N 4		
N CQ G? > 9? C & C				

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

• Q G >
 • Q G ;

=	4	=		E	4		4	, 0+. 3+
?	4C				C	; ME' <	KG&	MQ G
KG	(

=	4	=		E	4		4	, 0*. 30
N	Q	G >	9 9	M	9 ? 9	"# 9	9 M 9	9 ? 9 "# 9

=	\mathbb{Q}^4	=	\mathbb{Q}	E	\mathbb{Q}^4		\mathbb{Q}^4	, 0^{+*} ,
;	\mathbb{Q}	<	$G \cap G^L$		\mathbb{Q}^L	"#	\mathbb{Q}	\mathbb{Q} MQ \mathbb{Q} (

9.1.3 Post Build Configuration and Application Settings

=	9	4		=	9		E	9	4			G	4		, -3*	/
N	9		9	9	C	9		9	9		9	9		(	C	C

=	G 4	= G	E	G 4		G 4	, -3*1-
@	G @ >	9 N	9 MQ	G @	UN Q 9 AG OG (@	9	MQ G @ >
N	MQ	G @ L	9 N ?	(	9 N &	9	9 M

=	9 4	L	E	9 4	4	, 0*, *1
F	4		M	4		
L	N 4		L	N 4		
N	9 9	C C	9 C 9		C	
•	9 9	Q >	C C			
•	9 9	Q >	9 (C C C			

=	9 4	= 9	E 9 4	9	9 9 Q > C	9 4	, 0*, *3
N 9	& MQ GA	g MQ	GM	9 C	(CC Q > C	Q >	(C 9 C

=	4	=		E	4		4	, 0*, ++
N ₉	9	&	MQ	CA	G	Q>	(C	C

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

=	4	L	E	4	4	, 0*, +3
F	4		M	4		
L	N	4	L	N	4	
N						

=	\mathbb{G}_4	=	\mathbb{G}	E	\mathbb{G}_4		\mathbb{G}_4	, 0*, , +
N	\mathbb{G}	\mathbb{G}	Q>	C	*	(	C	

=	9 4	L	E	9 4	G 4	, - 232+
F	4		M	4		
L	N 4	GEMG , 0++20	L	N 74		
N	9	C C	9 C9	9 M? &		
.	9	I M?	G M?&	C		
.		= 9	M? "	' ? = #& C		
.		= 9	"	' ? = #& C		
.	9	>	G 9	&	C	
.	9	; 9 M	@ 9	C9C	9 MQ CG	9 9C (C
.	9	9	C			

[illegible]

=	9	4	=	9	E	9	4		9	4	/0/0/.
@	9	9	9	M?	9	9	9	9	M	9	M?
@	9	9	9	M?	9	9	9	9	M	9	M?

=	4	L	E	4	4	, -3*.1
F	4		M	4		
L	N		L	N		
@	Q	GF	M	=	=	" M?# C
•	Q	GA	M	=	=	(C C

=	4	L	E	4		4	, -3*.3
F	4		M	4			
L	N	4	L	N	4		
@		)	C	M?	&		

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

, 0

- Q G? ? > 9 " M?# C
- Q GC 9 M " M?# C C

=	4	L	E	4		4	, -3*/ +
F	4		M	4			
L	N	GEMG , 2-21* & GEMG , 2. 0+ . & GEMG , 0++1, & GEMG , 0++10& GEMG , 0++1. & GEMG , 0++12	L	N			
@		Q G G @ C • Q GN M 9 & C • Q GM 9 = 9 & C • Q GN Q = 9 M G C > N C 9 C • Q GN = 9 P C " C Q > N C G 9 C # C C		# &		C C	

=	4	L	E	4	4	, -3* / -
F	4		M	4		
L	N		L	N		
@	9	9	Q	C	N	G
•	Q	G;	9	=	8	C
•	Q	GC	N	9	G	C"
•	Q	GQ	9	G	9	M
	9	9	9	C		(

9.1.3.1 Alive Monitoring

=	9 4	L	E	9 4	G 4	, -3*//
F	4		M	4		
L	N 9	GEMG, 0++20	L	N 9		
N	9					
•	;	M	9 9	=C&	C C	
•	Q	G?	;	C	9=C	9 C& C C
•	9	;	M	9 9 9 9	9 9	9 C=C C C
						(C C

=	4	L	E	4	G4	, -3*/1
F	4		M	4		
L	N4		L	N4		
N	9	C	C	9	C	4
• Q	GN	M	9	&	C	
• Q	GM	9	=	&	C	
• Q	GM	9	L	=	C	"
• Q	G@	M	9	=	C	#
• 9Q	G?	M	9	=	C	N
	Q>					

9.1.3.2 Deadline Monitoring

=	L	E		G 4	, -3*0-
F 4		M	4		
L N 4		L N 4			
N • •	> 	G 9 9 C G 9 G & Q G > 9 9 C 9 G C	= C C C C 9 9 C C	(C C	

=	9 4	L	E	9 4	4	, -3*0/
F	4		M	4		
L	N 4		L	N 4		
N	9	C C	9 9	C	9	4 C C
• Q	GN	M 9	&	C		
• Q	GM	=	&	C		
• Q	G>	L	=	"	M? #&	C C
• Q	G@	>	L	9	M? #&	C
• 9 Q	G?	M	9	C		
	Q>		C	N	9	9
			C	&	9	C
						(C C

9.1.3.3 Program Flow Monitoring

=	4	L	E	4	4	4	, -3*1+											
F	4		M	4														
L	N	4	L	N	4													
N	9	9	C	C	@	G	C	C	9	=	&	C	C	2	9	9	C	C

=	4	L	E	4	4	, -3*01
F	4		M	4		
L	N		L	N		
N						
•	Q	GN	M	9	&	C
•	Q	GM	9	=	&	C
•	Q	G	@	9	L	C
•	Q	G@	@	9	L	=
•	9Q	G?	M	9	=	C
	Q>					

9.1.3.4 Configuration Restrictions for S-WdgM AUTOSAR 3.1 Compatibility Mode

= 4	= 4	E 4		4	, 2. 13*
CQ>AG ; ONI M L - + R = G ; NG-ENS ; ONI M L - + Q G (C			IN> I H& C 9	MO G 9C C 9 C C 0	

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

, 2

[illegible]

9.1.4 S-WdgM Fault Detection Time and S-WdgM Fault Reaction Time Evaluation

=	4	=		E	4	G4	, - +/21
N	(N	C9	C9	C9	C9	C9	C9
=	4	=		E	4	G4	, -3, -0
;							UN Q>AG OG (
=	4	=		E	4	G4	, - +/31
Definition:							
N							
Q	#						
+	MQ	G@	>				
,	MQ	G@	L				
C	U	, 0, 0, &	MQ G@	>			
=	4	=		E	4	G4	, -30-0
N	9 9 9	9 9	9 9	9C	9 9	9 9	9 9

9.1.4.1 S-WdgM Fault Detection Time

=	9 4	= 9	E 9 4		G 4	, 0*/3+
N	MQ 9 ^G @	>	9 N		9	9 9 C

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

, 3

= 4	=	E 4	4	, -3, /,
N MQ G @ > N	9 C	MQ G G @ 9 9 9 A 0 I E'M C 9 9	#N	

= 4	=	E 4	4	, -3/0*
N MQ G @ > N	9 C	9 C	9 C	(C C

9.1.4.1.1 Alive Supervision

= 4	=	E 4	4	, -3, 2.
N MQ G @ 9 N	9 C	9 C	9 C	9 C

= 4	=	E 4	4	, -3-**
< M 9 L =C	9 C	9 C	9 C	9 C

= 4	=	E 4	4	, -3, 2/
C & MQ G @ > N	9 C	9 C	9 C	9 C

= 4	=	E 4	4	, -3, 20
H 4> 9 L M =C	9 C	9 C	9 C	9 C

9.1.4.1.2 Deadline Supervision

= 4	=	E 4	4	, -3, . *
N MQ G @ 9 N	9 C	9 C	9 C	9 C

Project Name: M Q 9 G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+ -*

= 9 4	= 9	E 9 4	9 4	, -3, . ,
C • • •	9 & MQ G @ 9 > 9 Q G G @ 9 "# M=(	> C 9 N P 9 9 # 9 M=	M=(N C C C	
#> 9 9 9 9 C C	9 C , = 4N (	= C	C & C 9 = C	

= 9 4	= 9	E 9 4	9 4	, -3, . ,
H 9 4>	M=(N & C = 9	M=(	C = C	

9.1.4.1.3 Program Flow Supervision

= 9 4	= 9	E 9 4	9 4	, -3, 02
; N MQ G @ • 9 • 9	9 N 9 C 9 C	= 9 9 9 Q G G @ 9 "# M=(	9 C C 9 C	

= 9 4	= 9	E 9 4	9 4	, -3, 03
C • • •	9 & MQ G @ 9 > 9 Q G G @ 9 "# M=(	> C 9 N C C 9 M=	M=(N C C C	

= 9 4	= 9	E 9 4	9 4	, -3, 1*
H 9 4>	M=(N & C = 9	M=(	C = C	

9.1.4.2 S-WdgM Fault Reaction Time

= 9 4	= 9	E 9 4	9 4	, - +2* /
N MQ G @ • 9 • 9	9 L 9 9 Q >	9 N 9 9 C 9 "driver & * & # 9 "driver#	9 9 9 9 C	

= 9 4	= 9	E 9 4	9 4	, -3/12
H 9 4N	9 Q >	Q > 9 C C MQ G 9 L " > ? N " # MQ G	C	

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

- +

=	9	4	=	9		E	9	4		G	4		-3/2*	
H	9	4C	9	9	MQ	G&	MQ	G@	L	9	N		9	M
Q	C													
•	Q	C	M	N	Q	9	"#	C	C					
•	G			9	L	"#	C	Q>	9		9	#	C	C
<														
(M					C	9	9	"C	9	9	BQ	C	9	C
						9	9	9	MQ	C	(	#	C	C

=	9 4	=	9	E	9 4	G 4	, -30+0
N	9 9 9	9 9	L	C=	9 " 9	9 9	9 C # 9 C C 9 C
• ;	9 9	(> C C 9	C	9 9	9 9	9 C C C	9 C 9 C
I E'M	9 (9	M?	C	(> C	9 9	M?	9 M Q G 9 9 9 M?(
• N	9 9	M?	9 C	I E'M	C (
;							

=						E				G 4	, -30 / 2
N						C	MQ	G			
.											
	Q	G@	M				G@	>			
	Q	G@						#			
.											
	Q	G?	M								

=	9	4		=	9		E	9	4		G	4		, -300.
I	MQ	G@	L	N	9	&	9	C	9	C	9	9	9	C
CQ>AG	GG?	CN?	L?M?N	9	M> I H&	9	9	9	9	9	9	9	9	9
9	&	9	C	CM N	Q	"driver&* & #	9	Q	G driver	9	9	9	9	Q>
9	&	9	C	9	Q>	(	C	C						
H	9	4M	9	Q>	9	9	9	C	(C	9	9	&	Q> C	9 C C
				Q>	9	C	(	C						

[illegible]

=	4	=	4	E	4	4	, -3/2,
Notation:							
Q	9	&	9	9	9	4	C
G@/#	'	9	G	@	"#	9	9 C MQ G@ L 9 N (
G@*#	9	G	@	"#	MQ	G@ ^C	> 9 N @ L 9
N	(
G@+#	+ M=	(
G@sc#	sc M=	G@*#					

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

= 4	=	E 4		4	, -3/2.
N M Q G @ 9 (N					

9.1.4.2.1 Alive Supervision

= 4	=	E 4		4	, -30.
N					
G@'# iM= G@*# C					
i7 "Q GM 9 L 9 = C N 9 C Q 6@ M 9 L = N #					
Q G? M					
N iM= (C					

9.1.4.2.2 Deadline Supervision

= 4	=	E 4		4	, -30/*
N					
G@'# iM= C G@*# C					
i7 "Q G> L 9 = C N 9 C Q 6@ > L = N 9					
Q G? M					
N iM= (C					

9.1.4.2.3 Program Flow Supervision

= 4	=	E 4		4	, -30/.
N					
G@'# iM 9 = C G@*# C					
i7 "Q G 9 @ 9 L 9 = C C 9 C Q 6 9 @ 9 > C L C = N 9					
Q G? M					
N iM= (C					

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

--

10 S-WdgM Configuration Generator

= 4	=	E 4	G 4	,, 22*1
N 9	9 C C 9 C MQ GA	9 MQ GA (C C C		

= 4	=	E 4	G 4	,, 22*3
@	MQ GA & UNN Q>AGOG (

= 4	=	E 4	G 4	,, 20- /
H 4N MQ GA	not; MF>(C C 9 C MQ G C & (

10.1 S-WdgM Generator - Installation

= 4	L	E 4	G 4	,, 22+-
F 4		M 4		
L N 4		L N 4		
C MQ GA 9 C C 9	C C C 9 I M Q 1 M +9 C			

= 4	=	E 4	G 4	,, 22+ /
N MQ GA	C Q 1 M +(C			

10.2 S-WdgM Generator - Application

= 4	L	E 4	G 4	,, 22, -
F 4		M 4		
L N 4		L N 4		
N 9 MQ GA C	M G " C C C Y ON ON>C ?=NI LS #			

= 4	=	E 4	G 4	,, 22, /
C	& C C C C C			
; ONI M L (

= 4	=	E 4	G 4	, 0- - **
N	C C " # C C C			

= 4	L	E 4	G 4	,, 22, 1
F 4		M 4		
L N 4		L N 4		
C MQ GA	C C C C C C & " # C C C			

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

9 ; ONI M L (

=	9	4		=	9		E	9	4			G	4		,,	22,	3
? 9			CC ? 9	C		CC 9 C			9"	#	C CC		CC				
C		&	MQ GA	9		9C CC & 9		CC		9	C		CC				q

=	9 4	L	E	9 4		G 4	,, 22- +
F	4		M	4			
L	N 4		L	N 4			
C	MQ 9 G A 9	C	C	8	C	9	C C
			MQ	G =	9	(	C

=	9	4	=	9	E	9	4	9	4	9	22--
Q			C	Q	C	C	9	9	9	9	9
C	"		C	#	M	Q	G	A	9	C	C
	*		Q	C	C						

=	9	4	=	9	E	9	4	G	4	, , 3023			
C	9	9	C	C	C	C	C	C	MG	G =	9	9	9
	9	4	C	C	C								
•	Q	G	<=	(
•	Q	G	<=	(
•	AS3:	Q	G	G	G	(	&	9					C
•	AS4:	Q	G	I	MG	G	(
•	Q	G	=	@	(								C

=	9 4	= 9	E 9 4		9 4	, - ++21
NNN	9 &	C C 9 C 9	9 9 9 C (	C	M?C(N	C

=										E				G4	,, 22-1
N	MQ	GA 9	(C				C	C(N	MQ	GA					C

10.3 S-WdgM Generator - S-WdgM Configuration Verification

=	9 4	= 9	E 9 4	G 4	, , 31*/
N	= ' B C ' # 9	MQ C G A	9 (MQ C G = 9	" ((C	

=	9 4	=	9	E	9 4		9 4	,, 22 -
N	9	9	9 C	9	MQ	G A	9	9 C C 9
; ME' > (

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

- /

=	9	4		=	9		E	9	4		G	4	, 3+ - +2
N	9	4	9	9	C	9	9	&			C		9
.	9	4	9	9	MQ	9	9	?	O>	9	"	9	P
.	"	9	9	#	9	P	9	C	C			#	C C
.	P			C	CC	9	P	9	&	C	CC	C	
.		9	"			9		9		P	C	C#	C C
.						9				MQ	G C	9	(

=	9 4	L	E	9 4	G 4	, 3++, 0
F	4		M	4		
L	N 4		L	N 4		
N	9	9 C C ?=O>	9	9 C C	9 C C	9 9
MQ	G = 9	9 &	C	(	C C	

=		L	E	G	,0*0+/ 4
F		M			
L	N	L			
C	MQ	GP	C	C	M
9	9	MP	(C	I M	9

=	γ_4	=	γ	E	γ_4		\mathbb{G}_4	, 0*0+1
N	MQ	G	γ_Q	γ	1	M	+	C

10.3.1 Check S-WdgM Configuration against ECU Configuration

=	9 4	L	E	9 4	G 4	, , 220/
F	4		M	4		
L	N 4		L	N 4		
N	9	C C	C	9 9	C 9	C C M
Q	G	(

= 4	=	E 4		4	,, 221+
>	MQ	G	C		

=	9 4	L	E	9 4	9 4	,, 2211
F	4		M	4		
L	N 9		L	N 9		
N	9	C C	C	9	9	C C 4 C
•		C N N G	C 9	C &	C 9 C	9 9 C 9 (
•		C	9	C	9 C	9 9 C 9 (

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

-0

10.3.1.1 Creation of S-WdgM Info Files

= 4	L	E 4	G 4	, -, , 0/
F 4		M 4		
L N 4	L N 4			
N MQ G C		U ?=O>	U U U U = U U	

Project Name: M Q G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

-1

= 4	=	E 4	4	, 0-0/3
C	RMFN	C	4 C	C C
•	C	C	ECU-description-file 8	C C
•	C	C	ECU-description-file 8	C C

10.3.1.2 Verifier Compilation

= 4	=	E 4	4	, , 22/1
N MQ GP	C C	4 C		

= 4	L	E 4	4	, , 302-
F 4		M 4		
L N 4		L N 4		
N	0, 0, & 2& ++ (C	C C	C C	C C

= 4	=	E 4	4	, -, 0-
NNN	- (((

= 4	L	E 4	4	, 1*000
F 4		M 4		
L N 4		L N 4		
N	C C C	; ONI M L' MQ G M	C	C
P	C C C	MQ G C M	(	C

= 4	=	E 4	4	, 0-2+,
N	9	9	9 C	9 9 9 # C
MQ G	4	C		
• Q G (
• Q G = (
MQ C	4	C		
• Q C = (
• Q CN (
=	MQ G C 9	"RMFN C #	C	
•	9	C C		
A	MQ G C	4	C	
• Q G = @	(	C		
• AS34Q G G G (& 9		C		
• AS44Q G I MG G (
• Q G < (

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

-2

```
@ MQ GM 4
. ( C C
. 9( C C C
.
F 9 9 4 C
. = 9 ( C C
. = 9 = ( C
. G G (
. I (
. I G G ( C
. M N (
. L = 9 = ( " LN? C #
. L G G ( " LN? #
. L N " LN? #
```

= 4	=	E 4	4	, 0-2--
N	path#	verify-includes		

= 4	L	E 4	4	, 0-2, /
F 4		M 4		
L N 4		L N 4		

```
@ MQ GM 4
N = 4 C
. Q G < ( C 9 4
. = MQ G C C
. @ 9 MQ GM C C 4
. ( C C C
. ( C C
```

= 4	L	E 4	4	, 03/ /2
F 4		M 4		
L N 4		L N 4		

```
N P , C C 99 C C MQ GA C C MQ G
( C
```

= 4	L	E 4	4	, 03/0*
F 4		M 4		
L N 4		L N 4		

```
> MQ GA C C C C C C C C C C
MQ G (
```

= 4	=	E 4	4	, 0. *00
N	4			

```
'Q 9 C (CQ G < ( verify-includes 'Fdll-path' , 9
```

(C C

C 9 9 C "# 9C C 9 C 9 C(C

- verify-includes
- dll-path

= 4	=	E 4	4	, , 3033
C 9	9	C C	GP	C C
"	(#	C C		

10.3.1.3 Verifier Run

= 4	=	E 4	4	, , 303+
Q MQ GP	C C 9 9C & 9 9 ! 9 ! C			9 = C 9 (
N MQ 9 GP	C C C C 9 9			
N				

= 4	L	E 4	4	, , 303/
F 4		M 4		
L N 4		L N 4		
N	(8 MQ GP C C 9 ((C CC C			

= 4	L	E 4	4	, , 220+
F 4		M 4		
L N 4		L N 4		
N	C C C MQ GP C C 9 4 C			
C	C MOGG,CLS 9 9 C C			
•	C ; MM?>&			
•	9 9 C C 9 9 CC C 9 9 C			
9	9 C (C			

= 4	=	E 4	4	, 0-22,
C 9 @ 6?>&				C
?	9 C			
•	(C			
•				

10.3.2 Manual Verification Checks

= 4	=	E 4	4	, 2 11*
N 9 9				(

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

.

= 9 4	L	E 9 4		G 4	, 2 11,
F 4		M 4			
L N 4		L N 4			
@ 9 9 9 C Q G 9 (& 9 C 9 C 4					
• Q GN 9 9 9 C					
• Q GA 9 N 9 C					
• 9 M 9 A 9 N 9 se cp i 9 M? se& = cp i# C					
• Q G=					
• Q GM 9 9? C C					
• Q GN 9 9 C C					
• Q GQ 9 >					

= 9 4	= 9	E 9 4		G 4	, 2 11.
M 9 9 9 9 Q G= 9 UHL I @=B?=E I GNM (N					
9 9 Q G < ((

= 9 4	L	E 9 4		G 4	, 3*110
F 4		M 4			
L N 4		L N 4			
C Q G 9 (& Q GN M 9 Q GN Q 9 M C C Q GN 9					
9 "Q GN C M 9 Q GN C Q 9 M C *(G+#67 0// -G					
9 "x# 9 xC 9 9 " ((9 C (-#/- & 9 C"- (/ #/. & 9 C"- (1#/. # C					

= 9 4	L	E 9 4		G 4	, 3*112
F 4		M 4			
L N 4		L N 4			
C Q G 9 (& Q GN M 9 Q GN N 9 C Q GN 9					
9 "Q GN C M 9 Q GN C N 9 *(G+#67 0// -/					
9 "x# 9 xC 9 9 " ((9 C (-#/- & 9 C"- (/ #/. & 9 C"- (1#/. # C					

= 9 4	L	E 9 4		G 4	, 3*12*
F 4		M 4			
L N 4		L N 4	GEMG , 3. - +/		
C 9 G < (& C 4 Q GN 9 4 C					
@ 9 9 9 C 9 9					
= 9 M C 9 9					
M NrOfCheckpoints 5 (& C M ? C 9 H I C 9 9 C 9 C (C					

= 9 4	= 9	E 9 4		G 4	, 3*12,
@ 9 4CQ G= 9 - & 9 * &+ , (C					

Project Name: M Q 3 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

.

+

= 3 4	L	E 3 4	G 4	, 3*12.
F 4		M 4		
L N 4		L N 4	GEM 3. -, -	
C 9 G < (& C 4 Q GA 3 NC 3 4 C @ 9 = 9 M 9 C 4 9 9 NrOfCheckpoints M ? 5((C M ? C 9 H I C = ((NrOfCheckpoints'+5 9 C 9 C C				

= 3 4	= 3	E 3 4	G 4	, 3*122
@ 3 4CQ G= 3	- & 3	* &+ , (C		

= 3 4	L	E 3 4	G 4	, 3*13*
F 4		M 4		
L N 4		L N 4	GEM 3. - +	
C 9 G < (& C 4 Q GA 3 NC 3 4 C @ 9 ? M 9 C 9 *((Q>AG HL I @?HN 3M + (

= 3 4	= 3	E 3 4	G 4	, 3*2* +
@ 3 4CQ G= 3	- & 3	* &+ , (C		

= 3 4	L	E 3 4	G 4	, 3*13,
F 4		M 4		
L N 4		L N 4		
C 9 G < (& C 9 4 9 C C Q GA 3 NC 3 4 C @ 9 @ Q G= 9 F 9 C C 9 (

= 3 4	L	E 3 4	G 4	, 3*2*.
F 4		M 4		
L N 4		L N 4	GEM 3. * 2,	
C 9 G < (& C 9 4 Q GM C ? 4 C @ 9 @ Q G= 9 9 Q G= C 9 U & i C *((Q>AG HL I @=B?=E I 3NM + (

= 3 4	= 3	E 3 4	G 4	, 3*2*0
@ 3 4CQ G= 3	- & 3	* &+ , (C		

= 3 4	L	E 3 4	G 4	, 3*2* 2
F 4		M 4		
L N 4		L N 4		
C 9 G < (& C 9 4 Q GM C ? 4 C @ 9 Q G= 9 F 9 C C 9 9 Q G= 9 (

Project Name: M Q 9 G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

=	4	=	E	4	4	, 3*2+,
@	4CQ	=	-&	*	&+	(

=	9 4	L	E	9 4	G 4	, 3* 2+.
F	4		M	4		
L	N 7		L	N 7		
C @ @ Q GN	C & C C 4 C C C C 9 4 C C C 9 9 9 9 G 9 C C 9 C 9 9 *(C9 C C 9					

=	\mathbb{G}_4	=	\mathbb{G}	E	\mathbb{G}_4		\mathbb{G}_4	, 3^+2+0
\mathbb{G}_9	Q GN	G	\mathbb{G}	C	\mathbb{G}_9	& C	Q GN	G \mathbb{G} C \mathbb{G}_9 & C \mathbb{G}

=	$\frac{9}{4}$	L	E	$\frac{9}{4}$	\mathbb{G}^4	, $3 \cdot 2 + 2$
F	4		M	4		
L	N $\frac{9}{4}$		L	N $\frac{9}{4}$		
C N • • • •	9 9 9 = 9 9 = (	C C C C	C C C	$\frac{9}{4}$ 4 C		

[illegible]

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$		$\frac{1}{4}$	$\frac{1}{4}$, 3*13.	
N	4					F	N	A	N	(

Project Name: M Q G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+

= 4	L	E 4	G 4	, 3*130
F 4		M 4		
L N 4		L N 4		

```
=
• Q G= 9 Q G < ( 9 C C
• 9 9 4 C
@9 CP_item Q G= 9 4 9 9 C#& C
CQ G; FL HOFF NL "( (; M
C AS_item 9 4 C
• 9 = AS_item M? 9 = CP_item 9 &
• 9 AS_item = CP_item C
• AS_item Q G? ; C CP_item&
• AS_item C Q GG G CP_item C
• 9 L AS_item C Q GG G CP_item 9 C
• I " Q G; CFL HOFF NL (( ; M 9 =C CP_item C
9 AS_item 9 C CP_item 0
9 (
```

= 4	L	E 4	G 4	/////*
F 4		M 4		
L N 4		L N 4		GEMG //, /0/

```
C 7 & C C ; ONI M L P 4AUTOSAR namespace
C ?=O 9 ; ONI M L . (* 9
AUTOSAR namespace 9 (*
C ?=O ; ONI M L -(+ 9
AUTOSAR namespace -(+
```

= 4	=	E 4	G 4	/0***,
; AUTOSAR namespace:				
AS4:	4) 9 (9) . (* C C C			
AS3:	4) 9 (9)-(+ (C C			

= 4	L	E 4	G 4	////3+
F 4		M 4		
L N 4	GEMG -*.//1& GEMG -*.//-& GEMG -*. /01	L N 4		

```
C Q G 9< (& MQ G4
• M A& 9
• ? M A seid& 9 M?C seid& 9 C = 9 C 9 9 C C C
• ; = 9 A acid& 9 C = 9 C acid ; = 9 C 9 9 C C C
```

Project Name: M Q G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+

(C					
N	9	C 9	C 99	4	
<ul style="list-style-type: none"> Q>AG AFI <; F MN; LN M?= P; L HI CHN OHM ?=<?> Q>AG AFI <; F MNI M?= P; L HI CHN OHM ?=<?>(

= 4	L	E 4	G4	///3-
F 4		M 4		
L N 4		L N 4	GEMG -*. /0/& GEMG -*. /0-& GEMG -*. /0 +	

CQ 9 < (& 9 MQ G4					
<ul style="list-style-type: none"> M AM& ? AM& A 9 N 9 @ AM& 9 A 9 N 9 C C (
N	9	C 9	C 99	4	
<ul style="list-style-type: none"> Q>AG AFI <; F MB; L?> MN; LN M?= P; L HI CHN OHM ?=<?> Q>AG AFI <; F MB; L?> MNI M?= P; L HI CHN OHM ?=<?>(

= 4	L	E 4	G4	///33
F 4		M 4		
L N 4	GEMG -*. //3& GEMG -*. ///	L N 4		

CQ 9 < (& 9 MQ G4					
<ul style="list-style-type: none"> ? M 9 F seid& 9 M?Cseid& 9 C 9 9 C C C ; = 9 F acid& 9 ; = 9 C acid ; = 9 C 9 9 C C C 					
M? (
N	9 9?	M C F seid	9	C 99	4
<ul style="list-style-type: none"> Q>AG seid MN; LN M?= P; L HI CHN OHM ?=<?> Q>AG seid MNI M?= P; L HI CHN OHM ?=<?> 					
N	9 9,	= 9 C F acid	C 9	C 99	4
<ul style="list-style-type: none"> Q>AG acid MN; LN M?= P; L HI CHN -, <N Q>AG acid MNI M?= P; L HI CHN -, <N(

= 4	L	E 4	G4	/0/00/
F 4		M 4		
L N 4		L N 4		

CQ 9 9 G < (& 9 C Q Q>AG HL I @Q; N=B>I AM					
Q C (

= 4	L	E 4	G4	/0/01-
F 4		M 4		
L N 4		L N 4		

CQ 9 9 < (& 9 C Q Q>AG HL I @NLQA?L GI >?M					
Q C 9 G C N G 9 (C C C					

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

.

= 4	L	E 4		4	/00*1,
F 4		M 4			
L N 4		L N 4			
= 9 Q G M G Q>AG HL I @; FFI Q ?> =; FF?LM					
= 4	L	E 4		4	/00*2,
F 4		M 4			
L N 4		L N 4			
CQ>AG HL I @; FFI Q ?> =; FF?LM Q G= L Q G = N Q>AG HL I @; FFI Q ?> =; FF?LM					
= 4	L	E 4		4	/00*2.
F 4		M 4			
L N 4		L N 4			
CQ>AG HL I @; FFI Q ?> =; FF?LM Q G = N HOFF(

10.3.3 Check System Specifications against S-WdgM Info Files

=	4	=	4	E	4	4	, 0/. 33
; 9 & 9 & C 9 C ?=O C9(9 C C							
=	4	=	4	E	4	4	, 0/ / * +
N	9	9	9	9	9	9	9
N	9	9=,	9	9	C	9	9
C 9 (C							
=	4	=	4	E	4	4	, 0/ / * .
Check the generated Local Transitions as follows:							
=	4	=	4	E	4	4	, 0/ / * 2
@	=,	C	C	9	(	C	
=	4	=	4	E	4	4	, 0/ / , ,
N	9	9	9	9	9	9	9
?	F	N	9	9	9	9	9
•	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

. 0

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$	$\frac{1}{4}$	, 0 / , 0
F	$\frac{1}{4}$		M	$\frac{1}{4}$		
L	$\frac{1}{4}$		L	$\frac{1}{4}$		
N	$\frac{1}{4}$	C C	M	M	$\frac{1}{4}$	

=	9 4	L	E	9 4	4	, 0 / , 2
F	4		M	4		
L	N 4		L	N 4		
N	9	9	C	C	9 9	C M M 9

Check the generated Global Transitions as follows:

Check the generated Global Transitions as follows:

=	4	=		E	4		4	, 0 / 23
@	=	'						

=	9		=	9	E	9	G	,0//3+
N	A	9	A	9	M?	C	"	9
?		9	gt	9	'	9	#	C
.		9	M?	9	C			
.		9	=	9	C			
.		9	9	9				
.		9	M?	9				
.		9	=	gtref	retu	TmgG	TETEMC	P
								Lang en-US
								C
								new

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

.1

- $\mathbb{G}_{9^{se}}$
- $\mathbb{G}_{9^{cp}}$
- $\mathbb{G}_{9^{se}}$
- $\mathbb{G}_{9^{cp}}$

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$	$\frac{1}{4}$	, 0/0* -
F	$\frac{1}{4}$		M	$\frac{1}{4}$		
L	$\frac{1}{4}$		L	$\frac{1}{4}$		
=	cp	se	M	M	$\frac{1}{4}$	(

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$		$\frac{1}{4}$	, 0/0*/
F	$\frac{1}{4}$		M	$\frac{1}{4}$			
L	$\frac{1}{4}$		L	$\frac{1}{4}$			
=	$\frac{1}{4}$	$\frac{1}{4}$	se	M	M	$\frac{1}{4}$	se

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$		$\frac{1}{4}$	, 0/0*1
; $\frac{1}{4}$ = $\frac{1}{4}$ M? (

= ψ_4	= ψ	E ψ_4		\mathbb{G}_4	, 0/0++
Check the SEs as follows:					

@ = ' C C(

=	4	=		E	4	G	4	, 0/ 0+ /
N				M?	(
?	M?	se	'	C	99	"	9	# C C
.	G	se						
.		se						
.		se						
.		=	9	C	9	se		
.			C	C	&	9	9=C	G se C =
=	99	se	" , 0// 31#	9	(

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$		$\frac{1}{4}$	, 0/0+1
F	$\frac{1}{4}$		M	$\frac{1}{4}$			
L	$\frac{1}{4}$		L	$\frac{1}{4}$			
=	se		M	M		$\frac{1}{4}$	

=	4	L	E	4	G 4	, 0/0+3
F	4		M	4		
L	N 4		L	N 4		
=	4	M?	M	M	4	(4

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$		$\frac{1}{4}$, 0/0, +
---	---------------	---	---------------	---	---------------	--	---------------	----------

Check the deadline supervisions as follows:

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

. 2

=	4	=	E	4	4	, 0/0, -
@	=					

[illegible]

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$		$\frac{1}{4}$	, 0/0, 1
F	$\frac{1}{4}$		M	$\frac{1}{4}$			
L	$\frac{1}{4}$		L	$\frac{1}{4}$			
=	$\frac{1}{4}$	$\frac{1}{4}$	M	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	

=	9 4	L	E	9 4		G 4	, 0/0, 3
F	4		M	4			
L	N 4		L	N 4			
=	9	9	9	CM	M	9	

= 4	= 4	E 4		4	, 0/0-3
Check the Alive Supervision as follows:					

Check the Alive Supervision as follows:

=	4	=		E	4		4	, 0/0. +
@	=	'		C	C	9	(	C

=	9 4	= 9	E	9 4	G 4	, 0/0. -
N ? ; M 9 9 9 as M? 9 al 9 al C = ' 9; C M C 9 9 (" 9 # C						
.	9	9	C	L	C 9 al C	
.	9	9	C	9 al.	C	
.	9	9	9			
.						
.						

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$		$\frac{1}{4}$	, 0/0. /
F	$\frac{1}{4}$		M	$\frac{1}{4}$			
L	$\frac{1}{4}$		L	$\frac{1}{4}$			
=		$a/$	M	M		$\frac{1}{4}$	

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

. 3

= 9 4	L	E 9 4	4	0/0.1
F 4		M 4		
L N 4		L N 4		
= 9 9 M C 9 C M M 9				

Project Name: M Q 9 G C

Doc. Name: M G

Version: , -(, 2

Doc. No: >'M @R'M1****+

/ *

11 Safe Watchdog Manager

= 9 4	= 9	E 9 4	G 4	, , 23*1
N 9 9 C C 9 C C 9 9 MQ G 9 " # ; ONI M L (

11.1 API Specification

= 9 4	= 9	E 9 4	G 4	, , 23*3
N 9 9 C 9 C 9 9 (C 9 C M 9 & 9 9C & 9 9C 9 MQ G = 9 MQ 9 G(C				

= 9 4	= 9	E 9 4	G 4	, , 3+30
@ 9 C 9 9 & C 9 9 MQ G & UN Q > AG OG (C 9 9 & C 9 9 9 9 9 MQ C & UN Q > A @ OG (

= 9 4	= 9	E 9 4	G 4	, , 3-*,
@ 9 C C C C 9 C & 9 & 9 C 9 (

= 9 4	L	E 9 4	G 4	, , 3-*,
F 4		M 4		
L N 4		L N 4		
N 9 9 C C C 9 C 9 C C C 9 (

= 9 4	L	E 9 4	G 4	, , 3-*0
F 4		M 4		
L N 4		L N 4		
N 9 9 C C C 9 C 9 C C 9 (C				

= 9 4	= 9	E 9 4	G 4	/ , 322
= 9 9 9 (M 9 9 ; 9 F ; @ 9 9 (

= 9 4	L	E 9 4	G 4	, , 31..
F 4		M 4		
L N 4		L N 4		
N 9 9 9 C 9 C C 9 9 C C 9 C MQ G ; ONI M L (

= 9 4	= 9	E 9 4	G 4	// 203.
N 9 C 9 C 9 (N C ; ONI M L C 9 , - + * 1 (

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

/ +

= 9 4	L	E 9 4		G 4	, , 31. 0
F 4		M 4			
L N 4		L N 4			
N 9 ; ONI M L 9 MQ G 9 (? ((& 9 MQ G C 9 C C					

= 9 4	L	E 9 4		G 4	, - +2, /
F 4		M 4			
L N 4		L N 4			
N C 9 C C MQ G C 9 M Q G 9 C (C					

= 9 4	= 9	E 9 4		G 4	, - +2, 1
@ 9 & MQ G 9 , ME = " 9 9 ; ME = # & 9 C MQ G & C , ME > (

= 9 4	= 9	E 9 4		G 4	// 2032
N C C 9 ? C 9 (C					

11.1.1 Expected Interface

= 9 4	= 9	E 9 4		G 4	, , 3, * +
N 9 C MQ G (

= 9 4	= 9	E 9 4		G 4	, , 31 +/
@ 9 C 9 MQ G 9 & ONN Q > AG OG (

= 9 4	= 9	E 9 4		G 4	, -. 2 *
N 9 9 4 C Q C C C 9 MQ G					

Function	Module
Q C M G 9 "#	Q C
Q C M N Q 9 "# C	Q C

table 8

Project Name: M Q 9 G C

Version: , (-, 2

Doc. Name: M G

Doc. No: >'M @'R'M1****+

/,

Compiler Switch	Function	Module
Q>AG >?G L? I LN MN> I H	> L 9? 9M "# # C C C	>?G
Q>AG >?P ?LLI L >?N?=N MN> I H	> L 9? 9"# # C C C	>?N
Q>AG M?=I H> L?M?N ; NB MN> I H	G 9 L "# # C C	G
Q>AG OM? I M MOM ?H> CIN?LL O N MN> I H	AS3: M G ? Q G "# M C G ? Q G "# AS4: M G ? Q G Q>AG ?R=FOME? ; L?; * "# M G M G ? Q G Q>AG ?R=FOME? ; L?; * "#	M G
Q>AG MN? =B; HA? HI N C ; NC I H MN> I H	WdgM_GlobalStateChangeCbK "# # WdgM_LocalStateChangeCbK "#	#
Q>AG NC?<; M? M OL=? Q>AG CIN?LH; F B; L>Q; L? NGE	Q C A N = 9 "# C	Q C

table 9

C 9 C & 9 C 9 9 MQ G(
#N 9 9 MQ G 9 9 C 9
Q G A 9 M = = Q G F 9 M C = = & (N C 9
(
#N 9(MC C 9 9 9 9(C C

11.1.1.1 Implementation of Wrapper Functions for the Expected Interface

Function	Wrapper function
> L 9? 9M "#	> L 9? 9M "# C C C
> L 9? 9"# C	> L 9? 9"# C C C
G 9 L "# C C	G 9 L "# C C

table 10

H 9 4Q C 9 9 C 9 9 9 9 C (C
0*002

Project Name: M Q 9 G
Doc. Name: M G

Version: , (- , 2
Doc. No: >'M, @R'M1*'** +

/ -

=	4	L	E	4	G	4	, -2, . /
F	4		M	4			
L	N		L	N			
N							
+							
(
-							

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$		$\frac{1}{4}$	, / 33. +
F	$\frac{1}{4}$		M	$\frac{1}{4}$			
L	$\frac{1}{4}$		L	$\frac{1}{4}$			

Wrapper Function	Declared In Header File	Header File includes
> L ? M "#	> (> (
> L ? ? "#	> (> (
G ? L "#	G (	G (

table 11

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$	$\frac{1}{4}$	,, 3, ++
F	$\frac{1}{4}$		M	$\frac{1}{4}$		
L	$\frac{1}{4}$		L	$\frac{1}{4}$		

N
C₉ 9⁹, - 2⁹ * &, 31, 0&, -2, . 3& C₉ (C₉ / 33. + 9 & 9 M⁹Q G

=	4	=		E	4		G	4	, 0* / 0*
C	9			&	9	(	MQ	G	C

=	4	=		E	4		4	,, 31, 2
@	&	C	C	C	C	C		(

11.1.2 Imported Types and Definitions

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	,, 3, +
N	$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$		$\frac{1}{4}$	

=	4	=	E	4		4	,, 3, 30
N							
Types:							
2							
+0							

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

/.

99

Definitions:

NL O?

@ FM?

= 4	=	E 4	G 4	, , 3- +*
N				
Types: M L N C				
Definitions: MN> I H MN> I @@				

= 4	=	E 4	G 4	, - / 3*0
N				
9 M P C N & Q G A P C #				

= 4	=	E 4	G 4	, , 3- +,
N				
Definitions: ; ONI G; NG =I HMN @H= HOFF NL , =I HMN , @H= , P; L P; L				

= 4	=	E 4	G 4	, , 3- +2
N				
Q>AG =I >? Q>AG =I HMN Q>AG ; F =I HMN Q>AG ; F > ; N; Q>AG ; F P; L Q>AG P; L				

= 4	=	E 4	G 4	, 3*--.
N				
Q>AG ?R=FOME? ; L?; *				

= 4	=	E 4	G 4	, 3*--0
N				
Q>A@I @GI >?				

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

//

= 4	=	E 4	G 4	, 3*- ,
<p>CQ>AG OM? LN? MN> I H& AS3) "L Q G N C(" AS4)4 C Q>AG FI =; F MN; NOM I E Q>AG FI =; F MN; NOM @ ?> Q>AG FI =; F MN; NOM ?R ?> Q>AG FI =; F MN; NOM >; =NE; N?> Q>AG AFI <; F MN; NOM I E Q>AG AFI <; F MN; NOM @ ?> Q>AG AFI <; F MN; NOM ?R ?> Q>AG AFI <; F MN; NOM MNI ?> Q>AG AFI <; F MN; NOM >; =NE; N?></p>				

= 4	=	E 4	G 4	, 3- +.
<p>N Q G I MG (" AS3)# 4C C Q G(4 Q>AG AFI <; F MN; LN M?= P; L -, < Q>AG AFI <; F MNI M?= P; L -, < Q>AG AFI <; F MN; LN M?= P; L <I I F?; H Q>AG AFI <; F MNI M?= P; L <I I F?; H Q>AG MN; LN M?= =I >? Q>AG MNI M?= =I >? C Q G = 9 (4 Q>AG MN; LN M?= =I >? Q>AG MNI M?= =I >? C Q G < (" # C Q>AG M?seid MN; LN M?= P; L HI OHM ?=> Q>AG M?seid MNI M?= P; L HI OHM ?=> Q>AG M?seid MN; LN M?= P; L HI -, < Q>AG M?seid MNI M?= P; L HI -, < " M? Q GM ? C seid# Q>AG AFI <; F MN; LN M?= P; L HI OHM ?=> Q>AG AFI <; F MNI M?= P; L HI OHM ?=> Q>AG AFI <; F MB; L?> MN; LN M?= P; L HI OHM ?=> Q>AG AFI <; F MB; L?> MNI M?= P; L HI OHM ?=> Q>AG MN; LN M?= =I HMN OHM ?=> Q>AG MNI M?= =I HMN OHM ?=></p>				

= 4	=	E 4	G 4	, 3**22
<p>C M? Q GM ? C seid appl_name# Q G G G (" AS3)9 Q G I MG (" AS4)# C 4 Q>AG M?seid MN; LN M?= P; L HI OHM ?=> Q>AG M?seid MNI M?= P; L HI OHM ?=> Q>AG M?seid MN; LN M?= P; L HI -, < Q>AG M?seid MNI M?= P; L HI -, <</p>				

appl_name MN; LN M?= P; L HI CH OHM ?=>
appl_name MNI M?= P; L HI CH OHM ?=>
appl_name MN; LN M?= P; L HI CH -, <
appl_name MNI M?= P; L HI CH -, <
(C

= 4 = E 4 G 4 , 3*++2

C MQ G "Q GA G ; N L C
appl_name# 9 9 Q G G G (" 9 AS3# 9 Q G I MG G (" 9 AS4# C 4
Q>AG AFI <; F MN; LN M?= P; L HI CH OHM ?=>
Q>AG AFI <; F MNI M?= P; L HI CH OHM ?=>
Q>AG AFI <; F MN; LN M?= P; L -, <
Q>AG AFI <; F MNI M?= P; L -, <
Q>AG AFI <; F MN; LN M?= P; L <I I F?; H
Q>AG AFI <; F MNI M?= P; L <I I F?; H
C
appl_name AFI <; F MN; LN M?= P; L HI CH OHM ?=>
appl_name AFI <; F MNI M?= P; L HI CH OHM ?=>
appl_name AFI <; F MN; LN M?= P; L -, <
appl_name AFI <; F MNI M?= P; L -, <
appl_name AFI <; F MN; LN M?= P; L <I I F?; H
appl_name AFI <; F MNI M?= P; L <I I F?; H
(C

= 4 = E 4 G 4 , 3*223

> C C C C
Q>AG AFI <; F MB; L?> MN; LN M?= P; L HI CH OHM ?=>
Q>AG AFI <; F MB; L?> MNI M?= P; L HI CH OHM ?=>
C
A 9 M MN; LN M?= P; L HI CH OHM ?=>
A 9 M MNI M?= P; L HI CH OHM ?=>

= 4 = E 4 G 4 , , 31- *

N C CN " Q G = # 4
Type:
Q C G 9 N

= 4 L E 4 G 4 , , 3, - /

F 4 M 4
L N 4 L N 4
C 9 9 Q>AG OM? LN? MN> I H& C C
C 4

Type	Allowed Value
Q G M ? CN C	2& +0
Q G = CN	2& +0
Q G G N	2
Q G F M N	2

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

/1

Q G A M N	2
-----------	---

table 12

H 99 9 (C

= 4	=	E 4	G 4	, , 31*1
N MQ G	L N 9 (" 9 AS3# "L Q C G N C (" 9 AS4# ' 9 C ,	L N 9 (" 9 AS3# "L Q C G N C (" 9 AS4# ' 9 C ,		
Q>AG OM? LN?	MN> I H(

= 4	=	E 4	G 4	, -10- /
M M LN? MQ M	; ONI M L LN?(

= 4	=	E 4	G 4	, , 3, 22
C 9	Q>AG OM? LN?	MN> I @		M
Q G	4			

Type	Value
Q G M ? CN	+0
Q G = CN	+0
Q G G N	2
Q G F M N	2
Q G A M N	2

table 13

= 4	L	E 4	G 4	, , 3, 0.
F 4		M 4		
L N 4		L N 4		
C 99	9	Q>AG OM? LN?	99	MN> I H&
		4		

Definition	Value
Q>AG FI =; F MN; NOM I E	*
Q>AG FI =; F MN; NOM @ E?>	+
Q>AG FI =; F MN; NOM ?R E?>	.
Q>AG FI =; F MN; NOM >; =NE; N?>	.
Q>AG AFI <; F MN; NOM I E	*
Q>AG AFI <; F MN; NOM @ E?>	+
Q>AG AFI <; F MN; NOM ?R E?>	.
Q>AG AFI <; F MN; NOM MNI ?>	-
Q>AG AFI <; F MN; NOM >; =NE; N?>	.

table 14

= 4	=	E 4	G 4	, , 31*3
N MQ G	L N (" 9 AS3# "L Q C G N C (" 9 AS4#			

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

/ 2

Q>AG OM? LN? MN> I H(
= 4	=	E 4	G 4	, -10-1	
M U M LN? MQ M ; ONI M L LN?(
= 4	=	E 4	G 4	, , 3, 3,	
C Q>AG OM? LN? MN> I @ MQ G , , 3, 0(C					

11.1.3 Error Handling

=	9 4	= 9	E	9 4	G 4	,, 31/,
N	9	9 G MQ G; C C	9 (	C MQ G	>?N	>?G C

11.1.3.1 DET Errors

=	4	=		E	4		G 4	,, 3100	
>?N?	9	Q>AG	>P	?L	I	L	>?N?=N	9	& C
9	9	9	>N	9	C	9	C	9	C>?N C
		(	C	C	C		(@		

= 4	=	E 4		4	,, 31.,
C99 9	Q>AG >P ?LLI L >?N?=N	MN> I H&	MQ G		
	C C 9 C	> L 9 ? H "#	C C C		

Error	Code	Description
Q>AG ? HI G	* +*	O MQ G(
Q>AG ? ; L; G =I H@A	* ++	C MQ G = (C
Q>AG ? ; L; G GI >?	* +,	C " C C C M
Q>AG ? ; L; G M?G	* +-	Q G M?(C
Q>AG ? HOFF I GN?L	* +.	H (C C C
Q>AG ? >M <F? HI N ; FFI Q ?>	* +/	> Q (
Q>AG ? = G	* +0	C = (C
Q>AG ? >? L?=: N?>	* +1	O ; C " C
Q>AG ? NG?<; M?	* , 2	N (C C
Q>AG ? ; L; G MN; N?	* , 3	C MQ G (
Q>AG ? Q>A@GI >?	* ,;	N Q C M G "mode# C C
Q>AG ? G?GI LS @GOL?	* ,<	= MQ G (C
Q>AG ? L??HNL; H=S	* ,=	L (C

table 15

Project Name: M Q G C

Version: , (, 2

Doc. Name: M G

Doc. No: >'M @R'M1****+

/ 3

N 9 Q 6((
= 4		= 4	E 4	4	, , 31/ *
N 9 9 * +* 9 +1 C ; ONI M L C 9 " U M Q >AG MQ M# N 9 9 * , 2 9 , < C NNN C					
= 4		L	E 4	4	, , 310*
F 4		M 4			
L N 4		L N 4			
		GEMG , 2 / - +& GEMG , 2 / . 3& GEMG , 0+, 13& GEMG , 0++ 0& GEMG , 0++ 2& GEMG , 0++/*& GEMG , 0- 3* . & GEMG , 2- 3, . & GEMG , 0++32& GEMG , 0+, +* & GEMG , 0+, +, & GEMG , 023, - & GEMG , 2 * - 2& GEMG , 2 * . , & GEMG , 023, / & GEMG , 2 * / * & GEMG , 023, 1& GEMG , 2 * / . & GEMG , 023, 3& GEMG , 2 * / 0& GEMG , 023- +& GEMG , 2 * 0, & GEMG , 023- - & GEMG , 2 * 00& GEMG , 023- /			
N 9 MN> I @ 9 ?N 9 9 (CC C Q >AG >?P ?LLI L >?N?=N					

11.1.3.2 DEM Errors

=	4	=	4	E	4		4	,, 31. 2	
?=O 9 9 9 C 9 9 9 Q>AG >?G L? I LN MN> I H& MQ G 9 9 C 9 9 C 9 C 9 C , > L 9 ? M "# C CC									
Error					Code	Description			
AS3: Q>AG? GI H L CIA #						N			
AS4: > = > ? Q>AG ? GI HC* - *						Q>AG AFI <; F MN; NOM MNI ?>			
NI L CIA #									
AS3: Q>AG? G LI ?L =; FF?L #						9 9 9			
AS4: > = > ? Q>AG ? G LC* --						N 9 9 9			
I ?L =; FF?L #						Q G M G "#			

table 16

#H 9 4N 9 9 CC 9 > C CC C ?=O C 9 C
#H 9 4N 9 9 CC 9 9 > C CC C

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

 0^*

=	9 4	L	E	9 4	
F	4		M	4	
L	N 7	GEMG , 0++22& GEMG , 0++3*	L	N 7	
N	9	9 C 2 2	C C	9 9 9	3 ? 8 C C 9
	(C C				

11.1.3.3 Return Values

Function	Comment
Q G = L "#	G
Q G A F M "#	L
Q G A A M "#	L
Q G L "# C C	C
Q G A G "#	L
Q G M G "#	=
Q G > M "#	>
Q G ; M "#	;

table 17

=	4	L	E	4	G 4	, , 312,
F	4		M	4		
L	N 4	GEMG , 2. / - +& GEMG , 0++22& GEMG , 0++3*	L	N 4		
N	4	4 C C C	C C	4 4 4 "	4 C C	C
#	C	C	? HI N I E(

11.2 Functional Specification

=	4	=		E	4		G4	, 2. *-
;				MQ	G		WIN Q>AG O>> (
=	4	L		E	4		G4	, - *. 3.
F	4			M	4			
L	N			L	N			
N	9	"	C	CONI	ML	MQ	G	
9	&	(	C	;	MQ	#N	& ((&	9
				MQ	G			

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

0+

= 9 4	= 9	E 9 4	G 4	, 211-2
N 9 4 9 9 " C @ MQ G; 9 #& • 9 9 9 9 " C 9 • ; C 9 9 L @ 9; M C F C @ 9 9 ; C 9 F C ; C @ 9 L @ 9; M C F C @ 9 9 #				

11.3S-WdgM Configuration

= 9 4	= 9	E 9 4	G 4	, -*/.-
N MQ G 9 9 9 C 9 C 9 4 C • 9, 9 9 C • (C				

= 9 4	= 9	E 9 4	G 4	, -*/./
N , 9 9 9 C C 9 9 ?=0 9 9 MQ GA 9 9 N 9 Q G =C @ (# C 9 9 C C 9 C C C M 9 MQ G = 9 A G 9 C 9 9 C C 9 MQ GA C M 9 (MQ G = 9 A 9 C 9 9 C C 9 MQ GA C M 9 (MQ G = 9 A 9 C 9 9 C C 9 MQ GA C M 9 (MQ G = 9 A 9 C 9 9 C C 9 MQ GA C				

= 9 4	= 9	E 9 4	G 4	, -*/./ 1
N 9, 9 9 C C C G < (Q 9 < (# 9 9 C # C C A 9, 9 9 C C C G < (Q 9 < (# 9 9 C # C C C 9, 9 9 C C C G < (Q 9 < (# 9 9 C # C C N MQ G 9 9 9 9 (N 9 A 9 C 9 9 C C 9 MQ GA (9 C C Q G 9 MQ G = 9 A 9 C 9 9 C C 9 MQ GA (9 C C M 9 (MQ G = 9 A 9 C 9 9 C C 9 MQ GA (9 C C M 9 (MQ G = 9 A 9 C 9 9 C C 9 MQ GA (9 C C				

= 9 4	L	E 9 4	G 4	, -*/./ 3
F 4		M 4		
L N 4		L N 4		
N 9 9 C C C 9 C 9 9 C 9 9 9 C 9 9 9 C M Q G 9 # C 9 = 9 9 = 'F C 9 (

= 9 4	L	E 9 4	G 4	, -*/.-,
F 4		M 4		
L N 4		L N 4		
N 9 9 C C C 9 C 9 9 C 9 9 9 C 9 9 9 C M Q G = 9 9 A 9 C 9 (C C				

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

0,

= 4	L	E 4	G4	, - * // +
F 4		M 4		
L N 4		L N 4		
N				& ((C9 BQ (

= 4	=	E 4	G4	, - * // -
N		? = LI G	& LI G	& LI G
	(

11.4File Structure

= 4	=	E 4	G 4	, - *, -.
@				& UNN Q>AG OG (

= 4	=	E 4	G 4	, - *, -0
N				
MN> I H4				

Include File	Compiler Directive
G (	Q>AG M?=I H> L ?M?N ; NB
> (	Q>AG >?P ?LLI L >?N?=N
> (	Q>AG >?G L ? I LN
AS3: L N (	Q>AG OM? LN?
AS4: L Q G N (
M G Q G(	Q>AG OM? I M MOM ?H> GN?LLO N

table 18				
----------	--	--	--	--

= 4	=	E 4	G 4	, - *-1-
; Q G G G (" 9 AS3# 9 Q G I MG G (" 9 AS4# MQ G C				
A (N C C G G (
N Q G G (" 9 AS3# 9 Q G I MG G (" 9 AS4# C G G (&				
O 9 Q G G G (" 9 AS3# 9 Q G I MG G (" 9 AS4# 9 I M C				
9 M? C " (& C M? 9 ! #				

= 4	=	E 4	G 4	, - *, .,
M				, , 31. @

11.5S-WdgM Integration

= 9 4	= 9	E 9 4	4	4	, - *3/ +
N 9	9 9 C	MQ G C 9			(C

= 9 4	L	E 9 4	4	4	, - *3/1
F 4		M 4			
L N 4		L N 4			
C 9	9 C	9 9 C C			C
•	9 MQ 9 G	9 C	MQ C G		
•	9 C 9 C	9 C			(C

= 9 4	L	E 9 4	4	4	, - *3/ -
F 4		M 4			
L N 4		L N 4			
N 9	9 9 C 9 C	9 9 C 9 C	MQ C G 9		
•	9				
•	9				(

= 9 4	= 9	E 9 4	4	4	// 21*0
N 9	9 MQ C G 9	& C			C C (C

= 9 4	L	E 9 4	4	4	, - +2, -
F 4		M 4			
L N 4	GEMG , 2- / +2& GEMG , 2- / +	L N 4			
N 9	9 C C	9 C C	9 C C		! C C C C
	(C C				

= 9 4	= 9	E 9 4	4	4	, - +230
@ 9	9 9 9 9 C	9 9 9 9			# 9
	9 C	9 9 9 9			(C

11.5.1 Import from AUTOSAR Definitions into S-WdgM

= 9 4	L	E 9 4	4	4	, - *3/ /
F 4		M 4			
L N 4		L N 4			
N 9	9 ; ONI M L C	C MQ G 9 9	9 , ONI M L C		9 (

= 9 4	L	E 9 4	4	4	, - *303
F 4		M 4			
L N 4		L N 4			
N 9	9 (	9 ; ONI M L	9 ; ONI M L C		

Project Name: M Q G C

Version: , (-, 2

Doc. Name: M G

Doc. No: >'M @R'M1****+

0.

= 4	=	E 4		4	, - *31+
@ 4	9, ONI g M L C				
N	>	(
= 4	L	E 4		4	, - *313
F 4		M 4			
L N 4		L N 4			
N	9, ONI g M L	9 M Q G 9			
	M Q G (N	9 & (& C 9			
= 4	L	E 4		4	, - *32+
F 4		M 4			
L N 4		L N 4			
N	9	9 C			
		(
= 4	=	E 4		4	, - *32-
@ 4	; ONI M L	9 &			
@ 9	; ONI M L C	9, - + *1			
= 4	L	E 4		4	, - + * +/
F 4		M 4			
L N 4		L N 4			
C	9 C	9 C			
	9 C	9 N			
= 4	L	E 4		4	, - + * 03
F 4		M 4			
L N 4		L N 4			
C	9 C	9 C			
	9 C	9 N			
= 4	L	E 4		4	, - + * +1
F 4		M 4			
L N 4		L N 4			
C	9	9 C			
	C	9 C			
= 4	=	E 4		4	, - *311
H 4	9 C = 9	9 C &			
	C =	((

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

0/

= 9 4	L	E 9 4	4	4	, - +*, /
F 4		M 4			
L N 4		L N 4			
C 9 9 C 9 9 C 9 9 (9 9 ; ONI M L 9 (

= 9 4	= 9	E 9 4	4	4	, - +*1/
M 9 9 9 C & 9 C 9 9 9 G G ((N C 9 9 ! G G ((

= 9 4	L	E 9 4	4	4	, 0*101
F 4		M 4			
L N 4		L N 4			
N 9 9 C C Q G G G (" 9 AS3# 9 Q G I MG 9 (" 9 AS4# G G ((

= 9 4	L	E 9 4	4	4	, 0*2, 2
F 4		M 4			
L N 4		L N 4			
N 9 I G G (C G G ((9 Q G G G (" 9 AS3# 9 Q G I MG 9 (" 9 AS4#					

= 9 4	= 9	E 9 4	4	4	, 0*103
Q G G G (" 9 AS3# 9 Q G I MG 9 9 " 9 AS4# 9 M G 9 (M 9 9 G 9 G 9 9					

= 9 4	= 9	E 9 4	4	4	, - +*11
N 9 9 Q G I MG 9 (" 9 AS4# 9 9 C 9 G G (" 9 AS3# 9 9 9 9 MQ G M #					

11.5.2 Memory Mapping

= 9 4	= 9	E 9 4	4	4	, - +, 2-
N 9 MQ G 9 # @ 9 9 C 9 9 9 9 9 C MQ G 9 " 9 & C W N Q > A G O G (

= 9 4	L	E 9 4	4	4	, - +*, 3
F 4		M 4			
L N 4		L N 4			
N • 9 9 9 9 C 9 C 9 9 AS3# 9 Q G I MG 9 (" 9 AS3# C • 9 MQ 9 G = 9 Q C G G 9 A (9 C 9 C 9 MQ G 9 (G G (

Project Name: M Q 9 G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

00

=	4	=		E	4		4	, - +. 2.						
NNN			Q	G	G	G	(" AS3#	Q	G	I	MG	G	(" AS4#	

=	9 4	L	E	9 4		G 4	, - +, 11
F	4		M	4			
L	N 4		L	N 4			
N	9	MQ	G	9 C #	9	9	C 9
	9	MQ	G	(

=	4	=		E	4		4	, - +, 23
@			9	9	C	9	C	9
N	>	9	9	(

=	L	E		G 4	, - +, 2+
F 4		M 4			
L N 4		L N 4			
N	M? C 9 C	M? C 9 C			MQ =

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$	$\frac{1}{4}$	, 3*/+*
M	Q	G;	N	L	Q	Q > AG	OG (

=	4	L	E	4	4	, - + / .
F	4		M	4		
L	N		L	N		
N	9	C	9	C	9	C
•	9	C	C	9	C	9
•	)	C	9	C	9	C
		M	Q	G	(	C

=	L	E		G 4	, - +, 0,
F 4		M 4			
L N 4		L N 4			
N 9 (	CSC	C	C)	CSC	C

=	4	=		E	4		G4	, 3* / +,
M	Q	GA	G	N	L	Q	AG	OG (

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$			G	$\frac{1}{4}$	, - + 1.
;	MQ	G	$\frac{1}{4}$	$\frac{1}{4}$	C	MQ	G	$\frac{1}{4}$	$\frac{1}{4}$	C

= 4	L	E 4	G 4	, - +31,
F 4		M 4		
L N 4	GEMG , 0+, -2& GEMG , 0+, +0	L N 4		
C 9 G O C 9 9 & M Q C G 9 C 9 C C C C				

11.5.3 S-WdgM Files

= 4	L	E 4	G 4	, - +* - /
F 4		M 4		
L N 4		L N 4		
N 9 C C C C • 9 C • 99 9C 4 C N 4 C • Q G <= (" #& C • Q G <= (" #& C • Q G = @ (" #& C • Q G = (& • Q G(& • Q G(& • Q G = 9 (

= 4	L	E 4	G 4	, - *, , 3
F 4		M 4		
L N 4		L N 4		
N MQ G = C MQ G (

= 4	=	E 4	G 4	, 23/ 22
N MQ G C C C C Q G C "#				

11.5.4 Compilation and Linkage

= 4	L	E 4	G 4	, - *3/ 3
F 4		M 4		
L N 4		L N 4		
N C C C C C M Q G C HMC M)Q= 32334*33*(

= 4	=	E 4	G 4	, - *30-
N C HMC M)Q= 32334*33*(C ; HMC= "= 23# M = "= 3* #(

Project Name: M Q G C

Version: , (-, 2

Doc. Name: M G

Doc. No: >'M @R'M1****+

02

= 4	L	E 4	4	, - *33+
F 4		M 4		
L N 4		L N 4		
N ; ONI M L (

= 4	L	E 4	4	, - *13
F 4		M 4		
L N 4		L N 4		
N (

11.5.5 S-WdgM Stack Requirements

= 4	L	E 4	4	, - +/. 1
F 4		M 4		
L N 4		L N 4		
N MQ G C				

= 4	L	E 4	4	, - +/. 3
F 4		M 4		
L N 4		L N 4		
@; ME & C (

= 4	=	E 4	4	, - +/ / +
N	0, 0, "	0, 0, &	0&	1((+ & .)+ #

= 4	L	E 4	4	, - 0130
F 4		M 4		
L N 4		L N 4		
N 9 C C C Q> C C				

11.6S-WdgM Application

= 4	=	E 4	4	, - */ 2+
N	9cc MQ G A C 9	9 MQ G A	9 9 (C C	

= 4	=	E 4	4	, - */ 2.
@	MQ G	UN Q>A OG (

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

03

=	L	E	G	, - * +0.
F		M		
L		L		
N	C	C	C	MQ G ; ONI M L

=	4	=	E	4	4	, - * / 20
N	4					
•	Q	G	<=	(	"	#& C
•	Q	G	=	@	(	" #& C C
•	Q	G	=	(&	
•	Q	G	(

=	4	L	E	4	G 4	, -*/22
F	4		M	4		
L	N 4		L	N 4		
N			"	C#	MQ G; C	(

=	4	=		E	4		4	, - * 0 3
C	MQ	G:	C	&	> ? N	=	C	#
(		C	C					

=		L	E	G 4	, - * / 31
F	4		M		
L	N 4		L N 74		
N	(N	9	C C G;	C	9
.	9	9	CC MQ CC G	9	C
.	9	9	MQ CC G	(	C

=	4	L	E	4		4	, -*, , 0
F	4		M	4			
L	N	GEMG , 2- / - 0& GEMG , 0+, , 2	L	N			
N	9	9	9	9	9	9	9
	MQ	9	MQ	G4	C	BQ	MQ
•	MQ	G	9		C		
•	MQ	G	9	(	C		

=	9 4	= 9	E 9 4		G 4	, 23/. 0
N		((? ==	9	9	C	9 C C C
G O(

=	9	4	=	9	E	9	4		G 4	// 220,
@	9	9	9	9	9	C	C			
.	9		9	9	&	C				
.	9	9	9	&	C					

- $\frac{9}{9} G \frac{9}{9} M \frac{9}{9} C \frac{9}{9} C$ WIN $C_Q > AG \text{ OG}$ (

=	9 4	L	E	9 4		9 4	, - * 0 * 1
F	4		M	4			
L	N 4		L	N 4			
N	9 9	9	9	9	9	9	9
	MQ	9	9	9	9	9	9
•	MQ	G	9	9	9	9	9
•	MQ	G	9	9	9	9	9

= 4	=	E 4		4	//2102
N	(	(?=	&	'	C C C C

=	4	=	E	4	4	4	, - * 0 + 1
C	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9
•	9	9	9	9	9	9	9
H	9	9	9	9	9	9	9

=	9 4	L	E	9 4		G 4	, - +. 2*
F	4		M	4			
L	N 7	GEMG , 2- -33& GEMG , 0++3,	L	N 7			
N	9	9 9	C C	C	9 C	C MQ G 9	9 C

=	9 4	= 9	E 9 4		9 4	, - + +1
N A	9 M Q G	9 (C C	9 C	C	9 9 C	C C C
A	M			& C	C	

=		E		G 4	, - * 0 + /
C	&	M Q	G	9 C	

11.6.1 Application Level API Functions

=	$\frac{1}{4}$	=	$\frac{1}{4}$	E	$\frac{1}{4}$		G4	, - * 1, 3
N	$\frac{1}{4}$		$\frac{1}{4}$	C	MQ	G;	C	(

11.6.1.1 WdgM_GetMode ()

= 4	L	E 4	G4	, - *2+-
F 4		M 4		
L N 4		L N 4		
N Q > N G Q B A G "# (

= 4	=	E 4	G4	, - 0/, *
N Q > 9 9 9 9 C 9 ONI M 9 . (* (+ ; ONI M L - (+ (
C 9 > 9 9 9 C 9 ONI M 9 . (* (+ ; ONI M L - (+ (
• Q GN = 9 9 P C C				
• Q GN Q 9 M C C				
• Q GQ Q 9 G 9 M C C				

11.6.1.2 WdgM_SetMode ()

= 4	L	E 4	G4	, - +110
F 4		M 4		
L N 4		L N 4		
N Q > N G Q B M G "# (

= 4	=	E 4	G4	, - +112
N Q > N 9 G Q G M G 9 "# 9 ONI M L 9 (* (+ 9 9 ONI M L - (+ 9 9 (C 9 9 4				
N Q > N 9 G Q G M G 9 "# 9 ONI M L 9 (* (+ 9 9 ONI M L - (+ 9 9 (C 9 9 4				
• Q GN = 9 9 P C C				
• Q GN Q 9 M C C				
• Q GQ Q 9 G 9 M C C				

= 4	=	E 4	G4	, 2-2-0
H 4N Q G M G "# ; ONI M L - (+ (M				
UN Q > AG OG (

= 4	L	E 4	G4	, 23/, ,
F 4		M 4		
L N 4	GEMG , 2 * / 2	L N 4		
CQ G > < & C 9 9 G M G 9 C > 9 G 9 9 C				
Q > AG ? G LI ? L = ; FF ? L & 9 Q G M G "# (C				
I 9 C C 9 C 9 Q G M G "# 9 9 (

11.6.1.3 WdgM_CheckpointReached ()

= 4	L	E 4	G4	, - *2+ /
F 4		M 4		
L N 4		L N 4		
N Q C G = 9 L "# 9 (

Project Name: M Q G C

Version: , (-, 2

Doc. Name: M G

Doc. No: >'M @R'M1***+

1,

= 4	=	E 4		4	, - *2+1
Q G = L "# 9 9 C C C 4 C • > 9 G 9 M 9 C C & C C • @ 9 G 9 C 9 C 9 (C C C					
= 4	=	E 4		4	, 2-2-2
H 4N Q G = L "# ; ONI M L -(+ C 9 Q G O ; = 9 "# C					

11.6.1.4 WdgM_GetLocalStatus ()

= 4	L	E 4		4	, - *1--
F 4		M 4			
L N 4		L N 4			
N 9 C C C 9 Q G A F M "# 9 (

11.6.1.5 WdgM_GetGlobalStatus ()

= 4	L	E 4		4	, - *1-3
F 4		M 4			
L N 4		L N 4			
N 9 C C C 9 Q G A A M "# 9 (

11.6.1.6 WdgM_PerformReset ()

= 4	L	E 4		4	, - *1/1
F 4		M 4			
L N 4		L N 4			
N Q G 9 L "# C C Q C C Q G 9 L "# C C					
= 4	=	E 4		4	, - *10+
H 4N MQ C 9 9 C C C 9 = C C 9 9 C 9 9 C C C 9 = C C					

11.6.1.7 WdgM_LocalStateChangeCbk, WdgM_GlobalStateChangeCbk

= 4	=	E 4		4	, - +102
N Q G F M C 9 = 9 9 Q G A 9 M = C 9 (C N MQ G = 9 9 9 C 9 M = C 9 (

Project Name: M Q G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

1-

N 9 9 9 9 C MQ 8(N C C LN? 8 (LN?

= 4	= 4	E 4	G 4	, -10-3
-----	-----	-----	-----	---------

M 4 M LN? MQ M 4 4 4 ; ONI M L LN?(

= 4	L	E 4	G 4	, -*13-
-----	---	-----	-----	---------

F 4 M 4
L N 4 L N 4
N MQ 9 C 4 C

= 4	= 4	E 4	G 4	, -*2*+
-----	-----	-----	-----	---------

H 4N 9 9 MQ G 9 9 9 MQ 4

= 4	= 4	E 4	G 4	, - +211
-----	-----	-----	-----	----------

C I M N @ 4 C 9 9 C 4 C MQ G&

= 4	= 4	E 4	G 4	, -*23+
-----	-----	-----	-----	---------

N Q >AG M; N? =B; HA? HI N 4; NC H MN> I H(

= 4	= 4	E 4	G 4	, - 30*0
-----	-----	-----	-----	----------

N Q >AG M; N? =B; HA? HI N 4; NC H MN> I H&
Q >AG AFI <; F M; NOM M ?> Q >AG 4G?>CN? L?M?N
MN> I H"

11.6.1.8 WdgM_ActivateSupervisionEntity ()

= 4	L	E 4	G 4	, - +33
-----	---	-----	-----	---------

F 4 M 4
L N 4 L N 4
N C C 4 M? 4 G ; M 4 ? "# 4

= 4	L	E 4	G 4	, - +. **
-----	---	-----	-----	-----------

F 4 M 4
L N 4 L N 4
N 9 9 C 9 9 M? C C C
• 9
• "((9 # C

Project Name: M Q 3 G C

Version: , - (, 2

Doc. Name: M G

Doc. No: >'M @R'M1****+

1.

= 3 4	= 3	E 3 4	4	4	, - +, * +
N	3	3	3	3	3

= 3 4	L	E 3 4	4	4	, - +, * -
F 4		M 4			
L N 4		L N 4			
N	3	3	3	3	3

= 3 4	= 3	E 3 4	4	4	, - +, * .
;	3	3	3	3	3

= 3 4	= 3	E 3 4	4	4	, - +, * ,
@	3	3	3	3	3

= 3 4	= 3	E 3 4	4	4	, - +, * /
Q G ;	M	3	3	3	3

11.6.1.9 WdgM_DeactivateSupervisionEntity ()

= 3 4	L	E 3 4	4	4	, - +, +/
F 4		M 4			
L N 4		L N 4			
N	3	3	3	3	3

= 3 4	L	E 3 4	4	4	, - +, +0
F 4		M 4			
L N 4		L N 4			
N	3	3	3	3	3

= 3 4	= 3	E 3 4	4	4	, - +, +1
N	3	3	3	3	3

= 3 4	L	E 3 4	4	4	, - +, +3
F 4		M 4			
L N 4		L N 4			
N	3	3	3	3	3

= 3 4	= 3	E 3 4	4	4	, - +, , *
;	3	3	3	3	3

Project Name: M Q G C Version: , (-, 2
Doc. Name: M G Doc. No: >'M @R'M1****+

1/

= 4	L	E 4	G 4	, 220*-
F 4		M 4		
L N 4	GEMG , 2 *1*	L N 4		
N 9 ? =	9 C C M? C	C =		

= 4	= 4	E 4	G 4	, 220*/
N 9 & ? = (;	9 M? C 9 9 9 C M? (C			

= 4	= 4	E 4	G 4	, - +, +2
@ 4	4 Q G >	M ? &"# C W N Q > A G O G (

= 4	= 4	E 4	G 4	, - +, +
Q G > M ? "#	Q > A G ? H N O S > ? ; = N O ; N C H ? H ; < F ? >			

11.6.1.10 S-WdgM AUTOSAR 3.1 compatibility mode Functions

= 4	= 4	E 4	G 4	, - + 21
N 9 (		C , O N I M L - (+		

= 4	= 4	E 4	G 4	/ 0, 1*3
C M Q G ; O N I M L - (+	C M Q G			
; O N I M L - (+ Q	9 G (	Q > A G ; O N I M L - + R = I G ; N G E O S		9 M N > I H (

11.6.1.10.1 WdgM_UpdateAliveCounter ()

= 4	L	E 4	G 4	, 2-2 0
F 4		M 4		
L N 4		L N 4		
N	Q C G O ; = 9 "# 9 (C			

= 4	= 4	E 4	G 4	, 2-2/ ,
N	Q G = C L "#			

11.6.1.10.2 WdgM_SetMode ()

= 4	L	E 4	G 4	, 2-2/ *
F 4		M 4		
L N 4		L N 4		
N	Q > N	Q E M G "# (

= 4	L	E 4		4	, 2-2/0
F 4		M 4			
L N 4		L N 4			
$H^{4N} ; ONI M, L - (+ \dots \dots \dots = C \& C \dots \dots \dots$					

11.6.1.11 Requirements For All Application Level API Functions

=	4	L	E	4	4	, - * 0 + -
F	4		M	4		
L	N	GEMG , 2 . * . * & GEMG , 2 . * . 2 & GEMG , 2 . * / ,	L	N		
C	9	; C	9	(

=	4	L	E	4	G 4	, - * 1 - /
F	4		M	4		
L	N 4	GEMG , 2 * . * & GEMG , 2 * . 2 & GEMG , 2 * / ,	L	N 4		
M	9	9	9	9	C (N	C 9 9 C C C
	9	9	9	9	C MQ G	

=	4	=	4	E	4		4	, - * 1 - 1
N	4							
•	Q	G	A	G	9	"#&		
•	Q	G	A	F	9	M	"#&	
•	Q	G	A	A	9	M	"#&	

=	9 4	L	E	9 4	G 4	, - *1/ +
F	4		M	4		
L	N 4	GEMG , 2 *0*& GEMG , 2 *0. & GEMG , 2 *02& GEMG , 2 *1, & GEMG , 2-3-	L	N 4		
N	9	9 C 3 C 3	9 C 3	MG G; C	9	? H I N I E(C

=	9 4	=	9	E	9 4		G 4	, - * 1 / -
@	9 ?	9 B	c c	? H I N I E & C	9	, , 311,	9 L	P

=	4	L	E	4	4	, -*, , ,
F	4		M	4		
L	N		L	N		
C	LN?	Q'M G; C	&	LN?	MQ=!	(

11.6.2 System Level API Functions

= 4	=	E 4	G 4	, - *1- +
N		C M G ; C		(C

= 4	=	E 4	G 4	, - *2+3
H 4N	<MQ	9 C (N LN? 9 9	9C(N C 9 (C	

11.6.2.1 WdgM_Init ()

= 4	L	E 4	G 4	, - *2, +
F 4		M 4		
L N 4		L N 4		
N		G C	# MQ C G "	# Q G C "# (

= 4	L	E 4	G 4	, 0/3. 0
F 4		M 4		
L N 4	GEMG , 0++ 2& GEMG , 0++/*	L N 4		
Q G C "#		"(

= 4	=	E 4	G 4	, 3*0. *
< 9	>?N	& Q G C "# 9	9 9	HOFF C

= 4	L	E 4	G 4	, 0/ 220
F 4		M 4		
L N 4	GEMG , 0+*0, & GEMG , 0+*- *	L N 4		
N 9(		C C	MQ G =	Q C G C "#

= 4	L	E 4	G 4	, 0/ 22.
F 4		M 4		
L N 4		L N 4		
N 9(		C C	MQ G	Q C G C "#

= 4	=	E 4	G 4	, 1*01.
N		C		(C

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

= 4	L	E 4	4	, - * 2 +
F 4		M 4		
L N 4		L N 4		
; MQ G 9(" ((MQ G = L "## _____ M C Q G				

= 4	L	E 4	4	, - * 2 -
F 4		M 4		
L N 4		L N 4		
N 9 C C C C MQ G C C "##" ((C				

= 4	L	E 4	4	, - ++ 0 -
F 4		M 4		
L N 4		L N 4		
N Q G C "# C platform C "& platform C 9 # C MQ "				

= 4	= 4	E 4	4	, - ++ 1 3
N	" # MQ " # C Q (

= 4	= 4	E 4	4	, 0. 0 + /
H 4 M	Q (C			

= 4	L	E 4	4	, - ++ 0 3
F 4		M 4		
L N 4	GEMG , 0 + , ..	L N 4		
N Q G C "# _____ C C (

= 4	L	E 4	4	, - ++ 1 +
F 4		M 4		
L N 4		L N 4		
; MQ G; C C _____ Q G C "# C M Q G(

= 4	L	E 4	4	, 0 / 3 .
F 4		M 4		
L N 4	GEMG , 0 + , 13	L N 4		
N Q G C "# _____ Q platform C "#				

= 4	= 4	E 4	4	, - ++ 2 +
; Q G C "# C C C C C				

= 4	L	E 4	4	, 0. 0*3
F 4		M 4		
L N 4		L N 4		
N	!MQ MQ MQ			

= 4	L	E 4	4	, 0. 0++
F 4		M 4		
L N 4	GEMG , 2-212& GEMG , 0++10& GEMG , 0++1*	L N 4		
N	Q> MQ G			

= 4	L	E 4	4	, 23/ . 2
F 4		M 4		
L N 4	GEMG , 2/ *, 3	L N 4		
N	CQ G C "# 9 9 C 9 9 C MQ 8"((M=# C N 9 C>?G 9 9 C C 9C 9C			

= 4	=	E 4	4	, 23/ / *
C 9	& 9 9 9 9	MQ 9 GM C 9	9 9 9	MQ G 9 (C
N	9 9 C	MQ 9 MQ G= 9	& C	9 9
L	= (C			

11.6.2.2 WdgM_MainFunction ()

= 4	L	E 4	4	, 0/ 3/ *
F 4		M 4		
L N 4	GEMG , 0++1*& GEMG , 0++1, & GEMG , 0++1. & GEMG , 0++10	L N 4		
N	Q G G @ "# M=(C			

= 4	L	E 4	4	, - +, *3
F 4		M 4		
L N 4		L N 4		
N	# Q G G C@ "#			

= 4	=	E 4	4	, - +12*
CQ G G @	"# Q>			
(	C			

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

 2^*

=	4	L	E	4	G 4	, - ++-
F	4		M	4		
L	N 4		L	N 4		
N	Q	G	@	"#	Q	Q

=	9	4	=	9	E	9	4	G	4	,0.0*1
N			Q>							"M=□*#
O	G	9	C9	(N	C	9				9€C
MQ		(C	MQ	C	(H	9				C

=	$\sqrt[4]{}$	=	$\sqrt{}$	E	$\sqrt[4]{}$		$\otimes 4$, - ++2/
I		C	(

=	4	=	E	4	4	, -, . / 3
@				WIN Q > AG OG (

=	4	L	E	4	G 4	, - +0*3
F	4		M	4		
L	N 4	GEMG , 2- 21*	L	N 4		
N			Q	G G	@	"#
	(

=	♭ ₄	=	♯	E	♭ ₄		♮ ₄	, - ++3+
N		(	9					
Q	G	@	"#		&	C	M	Q
9	G	9	9		9	G	9	" C #
	(	9	9		9			
;	Q	9	9		9	(N	C	B
M	G	9	Q>	(M	C	C	9	L
	9	9	(	G	C	C	9	C(M

=	9 4	L	E	9 4	G 4	, - + * 1
F	4		M	4		
L	N 4		L	N 4		
N	9 9	Q	G G	@	"#	C
			M Q	G (

=	4	=		E	4		4	, - + 1*
;			Q	G	@	#	(

11.6.2.3 WdgM_UpdateTickCount ()

= 4	=	E 4		4	, - +0++
N	NNN				; ONI M L (C

Project Name: M Q G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1***+

2+

= 4	L	E 4	4	, - *2/1
F 4		M 4		
L N 4	GEMG , 2 *3+& GEMG , 0+, +	L N 4		
C Q>AG NG?<; M? M OL=? Q>AG ?RN?LH; F NGE& +)Q GN < N9 = 9 9 C 9 (C Q G O N = 9 "# C				

= 4	L	E 4	4	, - *21-
F 4		M 4		
L N 4	GEMG , 2 *3+& GEMG , 0+, +	L N 4		
C Q>AG NG?<; M? M OL=? Q>AG ?RN?LH; F NGE& 9 9 9 9 C > C G 9 9 G O C 9 N 9 C 9 "# C 9 9 9 (C				

= 4	L	E 4	4	, - *, +-
F 4		M 4		
L N 4		L N 4		
C 9 & C C C & C 9 C C • 9 & 9 • & • C • 9 MQ GN N 9 (C				

= 4	=	E 4	4	, 3*/-,
N				

= 4	=	E 4	4	, - *21/
N 9 N N C 9				

= 4	=	E 4	4	, - *211
CQ>AG NG?<; M? M OL=? Q>AG GN?LH; F M @Q; L? NGE& Q G O N = 9 "# Q G G @ 9 "# 9 C Q G G @ 9 "#				

= 4	=	E 4	4	, - 0/-2
CQ>AG NG?<; M? M OL=? Q>AG GN?LH; F B; L>Q; L? NGE& MQ G 9 9 C MQ C 9 Q G O N = "# N 9 C UN Q>A@MG (C M M G 9 (M G C C 9 9 N B 9 C C 9 L C 9 (

Project Name: M Q 7 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

2,

11.6.2.4 WdgM_GetVersionInfo ()

=	9 4	L	E	9 4	G 4	, - * 23/
F	4		M	4		
L	N 9		L	N 9		
N	9	C C	C C	9 9	W Q	G Q G A P 9 C 9 # 9 (C

=	4	=		E	4		4	, - * 231
Q	G	A	P	C	#	C	Q>AG P?LMC H @ ; C	M> I H(

=	$\sqrt[4]{}$	=	$\sqrt[4]{}$	E	$\sqrt[4]{}$		$\sqrt[4]{}$, - * 233
Q	G	A	P	$\sqrt[4]{}$	$\sqrt[4]{}$	#	=	$\sqrt[4]{}$

11.6.2.5 Requirements For All System Level API Functions

=	9 4	L	E	9 4		G 4	, - +, +
F	4		M	4			
L	N 4		L	N 4			
C	9	9 C	9	9	C C	C 9	C C 9 M
Q	G	; C	9	(

=	9 4	L	E	9 4	G 4	, - * 2- +
F	4		M	4		
L	N 4		L	N 4		
M	9	MQ	9;	C	9	9 9 9 C MQ G

=	9	4	=	9	E	9	4		9	4	, - * 2 - ,
N		4									
•	Q	G	C	"#	9	C	9	#	C		
•	Q	G	A	P	9	C	9	#			
•	Q	G	A	F	9	M	9	#			
•	Q	G	A	A	9	M	9	#			
•	Q	G	A	G	9	9	9	#			

=	9 4	L	E	9 4	G 4	, - * 2 - -
F	4		M	4		
L	N 9		L	N 9		
N	9	9 C 9 9	9 C 9	9 C 9	G; C	? H I N I E(C

=	4	=		E	4		4	, - * 2 - /		
@	9	9	?	HI	NI	E	311,	L	P	C

= 9 4	L	E 9 4	G 4	, - * 22/
F 4		M 4		
L N 4		L N 4		
N 9 9 9 , 9 9 9 MQ G C C 9 C C 9 4				
• A 9 M 9 C "# C C				
• A 9 L 9 C "# C C				
• Q G M N = 9 "#				
• Q G Q L 9 9 ? C C "# C				
• Q G Q A 9 9 ; C "#				
• Q G Q A 9 9 N 9 @ "# C C				
• Q G L A 9 N 9 @ "# C C				
• Q G L L ? C "#				

11.6.3 Memory Access

= 9 4	= 9	E 9 4	G 4	, - +, /
N 9 C 9 9 C 9 9 MQ G; 9 9 (

= 9 4	L	E 9 4	G 4	, - +, *-
F 4		M 4		
L N 4	GEMG , 0+, - *	L N 4		
N MQ G; 9 9 9 (

= 9 4	= 9	E 9 4	G 4	, - +, 1
N 9 9 9 9 (C 9 9 MQ G; C 9 9 9 9 C				
; 9 9 9 9 C 9 9 W N Q > A G O G (

Function	Memory Section			
	S-WdgM local SE memory	S-WdgM global memory	S-WdgM global shared memory	MCU Register (3)
Q G C "#"+#	&	&	&	&
Q G G @ 9 "#		&		&
Q G = 9 L "#	&		&	''''
Q G O N = 9 "#", #	''''	&	''''	''''
Q G 9 L "# C C	''''		''''	&
Q G A F 9 M "#		''''	''''	''''
Q G A A 9 M "#	''''		''''	''''
Q G A G 9 "#	''''		''''	''''
Q G M G 9 "#	''''		''''	''''
Q G > M 9 ? "#	''''	''''		''''
Q G ; M 9 ? "#	''''	''''		''''

table 19

"#+N 9 9 Q G C "# MQ G C MQ G C

9 9 M? (

Project Name: M Q G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1'***+

2.

```

",#N N N 9 9 9 M 9 G 9 ( C C C C C C C
"-#G=OL (N MQ C G 9 C C C 9 (N C C C 9 C C C C C
9 Q> G=O C 9 G=O 9 C 9 C 9 G=O C 9 (M
! O G C C M C G 9 ( C

```

=	4	=		E	4		G4	, - +. 3					
H	4N	GGO	G	O'	G	C	,	C	G	G	(C	C

=	$\frac{1}{4}$	L	E	$\frac{1}{4}$	G 4	, 2 3*3
F	4		M	4		
L	N $\frac{1}{4}$	GEMG , 0+, - *	L	N $\frac{1}{4}$		
N	$\frac{1}{4}$	C GGO)G O	$\frac{1}{4}$	GGO $\frac{1}{4}$ G O	(C	

= 4	=	E 4		4	, 2.3++
@	MQ G; C			C C C	

11.6.4 Concurrent Function Calls

=	4	L	E	4	4	, 2- +. 1
F	4		M	4		
L	N	GEMG , 2. 0**& GEMG , 2. 0*2	L	N		
N	4	4	4	4	4	4

The function below is interrupted by function on the right side

	WdgM_Init ()	WdgM_MainFunction ()	WdgM_CheckpointReached ()	WdgM_UpdateTickCount ()	WdgM_PerformReset ()	WdgM_GetLocalStatus ()	WdgM_GetGlobalStatus ()	WdgM_GetMode ()	WdgM_SetMode ()	WdgM_DeactivateSupervisionEntity ()	WdgM_ActivateSupervisionEntity ()	
WdgM_Init ()	N	N	N	N	N	N	N	N	N	N	N	
WdgM_MainFunction ()	N	N	Y	Y	N	Y	Y	Y	N	Y	Y	
WdgM_CheckpointReached ()	N	Y	Y*1)	Y	Y	Y	Y	Y	Y	Y	Y	
WdgM_UpdateTickCount ()	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	
WdgM_PerformReset ()	N	N	Y	Y	N	Y	Y	Y	N	Y	Y	
WdgM_GetLocalStatus ()	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
WdgM_GetMode ()			N	Y	Y	Y	Y	Y	Y	Y	Y	
WdgM_ActivateSupervisionEntity ()											N	

figure 1

S 9 S 9 " 9 C 9 # C C 9 C 9 (

H 9 H 9 "

+#,

12 Safety Lifecycle Tailoring

= 4	=	E 4	G 4	, - ** 2
N	NNN	9 C MQ G	9	9 , 0, 0, 9

= 4	=	E 4	G 4	, - ** +0
N MQ G	9	9 C C C	9	"M? 9 #
9 , 0, 0, & +*(N MQ 9	9 C	9 C MQ G	9	9 MQ >AG MQ M
9 N Q >AG ML >	9	9 N Q >AG OG (N	9	9 C
9 N Q >AG O >> (

= 4	=	E 4	G 4	, - **, *
N	9 , 0, 0,	9	9	9 NNN 4
• -'1 B	9	9	9	9
• -'2 @	9 M	= 9	9	9
• -'0 N	9 M	= 9	9	9
• -'1 M	9 > 9	9	9	9
• 0' / C	9	9	9	9
• 0'2 M	9	9	9	9
• 0'3 M	9	9	9	9
#,	9	9	9	9

= 4	L	E 4	G 4	, - **, ,
F 4		M 4		
L N 4		L N 4		
N	9	9	9	9

= 4	L	E 4	G 4	, - **, .
F 4		M 4		
L N 4		L N 4		
N	9	9	9	9

= 4	=	E 4	G 4	, - **, 0
N MQ G	9	9	9	9

= 4	L	E 4	G 4	, - **, *
F 4		M 4		
L N 4		L N 4		
N	9	9	9	9

Project Name: M Q 3 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1***+

21

=		L	E	G	, _ . * . *
F			M		
L	N		L		
N	MQ G C9 9 C	C9 , 0, 0,	C (	0' +* "MQ	#C9

=	G 4	L	E G 4	G 4	, - * ,
F 4			M 4		
L N 4			L N 4		
N # 9 C C C C C C C M , 0, 0' ++ " P 9 MQ C					

13 Qualification

=	9	4		=	9		E	9	4			G	4		, - ** 0*
N	MQ	G			9		9	9		C		0, 0,	9		C
M	F			N	9		(C	C				C	9		C
				C	9			(		C		, ME > &			

=	9 4	= 9	E 9 4		G 4	,, 2/.-
N	!M	G C (C				

=	4		=		E	4		4	, -**3-
N	MQ	G M	M	=	W N Q > A M M =		M Q	G	(

=	9 4	= 9	E	9 4		9 4	, - * +, 2
9	N MQ G	9	9	9	WIN Q > AG ONM (	9	WIN Q > AM ONM (
N	MQ G	9	9	9	WIN Q > AM ONM (	9	WIN Q > AM ONM (
N							

=	4	=		E	4		4	, 0*23,
N	9	MQ	G =	9	9	C	9	NNN
platform	M	9	(M	9	9	C" ((UN	9	platform MG &
					L	9	9	#

=	4	L	E	4	G 4	, - * +, .
F	4		M	4		
L	N 4		L	N 4		
N	9	9	C	9	C	9
	MQ	G	9	9	MQ	G
						9
						(
						C(N
						C
N	9	9	C	4	C	
•	9	=	O&	C		
•	9		&	C	C	
•	9		C	C	C	
•	MQ	GM	9	9	&	C
•		Q>	9	MQ	&	C
•		; ONI M L	9	MQ	(	C

=	9 4	L	E	9 4		G 4	, 2- 3/,
F	4		M	4			
L	N 4		L	N 4			
C	9	C 9 9	9 C	9 9	9 9 9 "	9	
	#						
N	9	4 9 9	"F 9 C	A 9 N	9 & (C	9 9 & (	9 9 #&
•							

Project Name: M Q G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

23

<div><div><div><div>•</div><div>•</div></div><div><div>;</div><div>=</div><div>9</div><div>9</div><div>9</div><div>"</div><div>(;</div><div>C</div><div>=</div><div>9</div><div>9</div><div>#&</div><div>(;</div><div>C</div><div>=</div><div>9</div><div>9</div><div>#</div><div>C</div></div></div></div>					
=	4	L	E	4	4, - * +, 0
F	4		M	4	
L	N		L	N	
<div><div><div>C</div><div>MQ</div><div>G</div><div>9</div><div>9</div><div>9</div><div>C</div><div>C</div><div>9</div><div>9</div><div>9</div><div>C</div><div>9</div><div>C</div></div><div><div>9</div><div>"</div><div>9</div><div>#&</div><div>UM</div><div>,</div><div>0</div><div>,</div><div>0</div><div>&</div><div>3</div><div>&</div><div>C</div><div>UM</div><div>,</div><div>0</div><div>,</div><div>0</div><div>&</div><div>3</div><div>(</div><div>0</div><div>#</div><div>C</div></div><div><div>N</div><div>NNN</div><div>9</div><div>C</div><div>C</div><div>9</div><div>C</div><div>C</div><div>C</div></div><div><div>•</div><div>MQ</div><div>M</div><div>G</div><div>UM</div><div>Q>A>L</div><div>platform</div><div>MG</div><div>"</div><div>NNN</div><div>9</div><div>C</div><div>C</div><div>C</div></div><div><div>"</div><div>#&</div><div>#</div><div>9</div><div>N</div><div>M</div><div>9</div><div>C</div><div>9</div><div>UM</div><div>Q>AM</div><div>UM</div><div>&</div></div><div><div>•</div><div>C</div><div>9</div><div>N</div><div>M</div><div>9</div><div>UM</div><div>Q>AG</div><div>ONM</div><div>(</div></div><div><div>•</div><div>O</div><div>N</div><div>M</div><div>9</div><div>UM</div><div>Q>AG</div><div>ONM</div><div>(</div></div></div>					
=	4	=	E	4	4, - +0+-
NNN	9	9	9	9	9

Project Name: M Q 3 G
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1***+

3*

14 Resource Requirements

=	9	4	=	9	E	9	4	G	4	, - * + / *
N	9	9	C	9	9	9	9	9	9	BQ &
N	9		C	9	C	9	(	9	9	9
G	(

Project Name: M Q 9 G C

Doc. Name: M G

Version: , (-, 2

Doc. No: >'M @R'M1****+

3+

15 Constraints And Known Problems

= 4	= G	E 4	G 4	, 3* / -
@ 9 9 9 C L C H 9	9 C 9 (C			

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1***+

3,

16 References

= 4	=	E 4	G 4	,, 3//3	
UM , 0, 0, M , 0, 0, &C	M	&C	'@	&@	, *++'++/

= 4	=	E 4	G 4	,, 32+		
UN Q>A@MG NNN	; ,	A B&M Q	C	'M	G C	>'M @R'M1*' **_

= 4	=	E 4	G 4	,, 30*		
UN Q>A>L G =/0 MG NNN	; ,	A B&M Q	>	G =/0	CM C	G >'GM 'G'1**', ,

= 4	=	E 4	G 4	,, 30*0		
UN Q>A>L M @N=I L? MG NNN	; ,	A B&M Q	>	N =	C C C C	M N 9 'M G >'M @R'M1***+-

= 4	=	E 4	G 4	,, 30+,		
UN Q>A>L NGM/1*FM- MG NNN	; ,	A B&M Q	>	NGM/1*FM-	C C	M G >'M @R'M1***+/

= 4	=	E 4	G 4	, - *+ -		
UN Q>AM M= NNN	; ,	A B&M Q	G	M	'M =	C >'M @R'G' 1***+

= 4	=	E 4	G 4	,, 3// +		
UN Q>AG OG NNN	; ,	A B&M Q	G	'O	G	>'GM 'G'1***+

= 4	=	E 4	G 4	,, 30, 0		
UN Q>A@OG NNN	; ,	A B&M Q	C	'O	G	C>'GM 'G'1***0

= 4	=	E 4	G 4	,, 30, 2		
UN Q>A>L G =/0 OG NNN	; ,	A &M Q	>	"G =/0	#' C G	& >'GM 'G'1***2

= 4	=	E 4	G 4	,, 30-*	
UN Q>A>L M @N=I L? OG M	Q	>	"M N	#' C C G	&'GM 'G'1***1

= 4	=	E 4	G 4	,, 30-.		
UN Q>A>L NGM/1*FM- OG NNN	; ,	A B&M Q	>	"NGM/1*FM-	C# C	G >'GM 'G'1***+*

= 4	=	E 4	G 4	,, 3/, +		
UM Q>AG MQ M ; ONI M L&M	Q	G	&P	, (*&L C	C. (*&L	+

Project Name: M Q G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

3-

= 4	=	E 4		4	///0-3
UM Q >AG MQ M - + ; ONI M L &M L +					
= 4	=	E 4		4	,, 3/- /
UM Q >A@MQ M ; ONI M L &M					
= 4	=	E 4		4	,, 3/- 1
UM Q >A>L MQ M ; ONI M L &M					
= 4	=	E 4		4	, -10. -
UM LN? MQ M ; ONI M L &M					
= 4	=	E 4		4	, - * + 2
UM MN>NS MQ M ; ONI M L &M					
= 4	=	E 4		4	, - * + *
UM =I _g G; <M MQ M ; ONI M L &M L +					
= 4	=	E 4		4	, - * + +,
UM FN@MQ M ; ONI M L &M					
= 4	=	E 4		4	, - * + +.
UM G?G MQ M ; ONI M L &M					
= 4	=	E 4		4	,, 3//1
WCM HO/ ++ OG N ; LG M = G					

16.1 Internal Documents

=	4	=	E	4	G 4	, 2-. / 0
N	9	NNN	;	9	9	A B4

=	4	=	E	4	G 4	, 2-. / 2
WIN Q>AG ?N;	NNN	;	A	B&M	Q	G
M1****+						' ? N ; C &MM @R'

=	4	=	E	4	G 4	, 2-. 0*
WIN Q>AG M>	NNN	;	A	B&M	Q	G
**1						' M > &'M @R'>'1*'

Project Name: M Q 9 G C
Doc. Name: M G

Version: , (-, 2
Doc. No: >'M @R'M1****+

3.

= 4	=	E 4	G 4	, 2-. 10	
UN Q>AG NML NNN ; 9 A B&M Q G 'N M CL & >'M @R'M1**+, +					
= 4	=	E 4	G 4	, 2-. 0,	
UN Q>AG ML> NNN ; 9 A B&M Q G 'M L C C > 9 &>'M @R'M1***.					
= 4	=	E 4	G 4	, 2-. 0.	
UN Q>AG O>> NNN ; 9 A B&M Q G 'O > > &>' M @R'>'1****,					
= 4	=	E 4	G 4	, 2-. 02	
UN Q>AG ONM NNN ; 9 A &M Q G 'O N M C &>' M @R'P'1****+					
= 4	=	E 4	G 4	, 2-. 1,	
UN Q>AM 9IM NNN ; 9 A B&M Q G M 'C N C M 9 &>'M @R'P'*+'***+					
= 4	=	E 4	G 4	, 2-. 1.	
UN Q>AM 9IL NNN ; 9 A B&M Q G M 'C N L &>' M @R'P'*+'***,					