BMW V47.30 Diagnostics List(Note:For reference only)

Series	Year	Chassis	CAS / FEM	EWS	DME / DDE	DME2	EGS / SMG	VTG / LMV	EKPS	VTC	VTC2	GWS	QMVH	EME	ABS / ACS / DSC	AL / AFS /ASA	LDM	ICM	RDC	ACC / FRR / LRR	ARS	EMF	EPS	EHPS	EHC	EDC / VDC
1 Series	2003 - 2012	E81/E82/E87/E88	CDTVF S1,S2 S30,S31,S32,S173,S174		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78,S169		CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44		CDTVF S1			CDTV			CDTVF S1 S80,S81,S82,S83,S84,S85,S26	CDTV S79			CDTV				CDTVF S1 S86			
1 Series	2010 -	F20	CDTV		CDTV S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144	CDTV	CDTV		CDTV			CDTV			CDTV S145			CDTV				CDTV S146 S148 S149	CDTV			
3 Series	1982 - 1994	E30		CDTV	CDTV		CDTV								CDTV										CDTV	
3 Series	1990 - 2000	E36		CDTV	CDTV S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129		CDTV								CDTV S1 S131,S132,S133										CDTV	
3 Series	1998 - 2006	E46		CDTV S1	CDTV S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129		CDTV S37,S38,S40,S41,S42,S130								CDTV S1 S131,S132,S133				CDTV S1							
3 Series	2004 - 2011	E90/E91/E92/E93	CDTVF S1,S2 S30,S31,S32		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78,S169		CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S171,S172		CDTVF S1			CDTV			CDTVF S1 S80,S81,S82,S83,S84,S85,S26	CDTV S79	CDTV S1		CDTV	CDTV S1	CDTV S90,S91	CDTV S87,S88,S89			CDTV S92,S93,S94,S95,S96	
3 Series	2012 -	F30	CDTV		CDTV S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144	CDTV	CDTV		CDTV			CDTV			CDTV S145			CDTV				CDTV S146 S148 S149	CDTV			
	1982 - 1988	E28		CDTV	CDTV		CDTV								CDTV										CDTV	

BMW V47.30 Diagnostics List(Note:For reference only)

Series	Years	Model																		
5 Series	1989 - 1996	E34	CDTV	CDTV	CDTV						CDTV									CDTV
	1997 - 2003	E39	CDTV S1	CDTV S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129	CDTV S37,S38,S40,S41,S42,S130						CDTV S1 S131,S132,S133									CDTV S150
	2004 - 2010	E60/E61	CDTVF S1,S2 S30,S31,S32,S173,S174	CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78	CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTV F S1		CDTV S1			CDTV F S1 S80,S81,S82,S83,S84,S85,S26	CDTV S1 S79	CDTV		CDTV	CDTV	CDTV S1 S90,S91		CDTV S1 S92,S93,S94,S95,S96	CDTV S118,S119,S120,S121
	2009 -	GT (F07)	CDTV	CDTV S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144	CDTV	CDTV	CDTV	CDTV		CDTV		CDTV	CDTV S145	CDTV		CDTV	CDTV	CDTV S146 S148 S149	CDTV	CDTV
	2009 -	F10/F11	CDTV	CDTV S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144,S170,S206,S207,S208,S209,S210,S211	CDTV	CDTV	CDTV	CDTV		CDTV		CDTV	CDTV S145	CDTV		CDTV	CDTV	CDTV S146 S148 S149	CDTV	CDTV
6 Series	1980 - 1989	E24	CDTV	CDTV							CDTV									CDTV
	2004 - 2010	E63/E64	CDTVF S1,S2 S30,S31,S32	CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78	CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTV F S1		CDTV S1			CDTV F S1 S80,S81,S82,S83,S84,S85,S26	CDTV S1 S79	CDTV		CDTV	CDTV	CDTV S1 S90,S91		CDTV S1 S92,S93,S94,S95,S96	CDTV S118,S119,S120,S121
	2010 -	F12/F13	CDTV	CDTV S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144	CDTV	CDTV	CDTV	CDTV		CDTV		CDTV	CDTV S145	CDTV		CDTV	CDTV	CDTV S146 S148 S149	CDTV	CDTV
	1980 - 1986	E23	CDTV	CDTV	CDTV						CDTV									CDTV
	1987 - 1989	E32	CDTV	CDTV	CDTV						CDTV									CDTV

BMW V47.30 Diagnostics List(Note:For reference only)

Series	Year	Model	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
7 Series	1995 - 2001	E38		CDTV S1	CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78		CDTV S37,S38,S40,S41,S42,S130						CDTV S1 S131,S132,S133									CDTV S150	
7 Series	2002 - 2008	E65/E66	CDTVF S1,S2 S30,S31,S32,S173,S174		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78,S169	CDTV S1	CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTV F	CDTV	CDTV			CDTVF S1 S80,S81,S82,S83,S84,S85,S26	CDTV	CDTV S1			CDTV S1 S90,S91	CDTV S1 S87,S88,S89			CDTV S1 S92,S93,S94,S95,S96	CDTV S1 S118,S119,S120,S121
7 Series	2008 -	F01/F02/F03/F04	CDTV		CDTV S45,S46,D56,S66,S69,S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144,S197,S198,S199,S200,S201,S202,S203,S204,S205	CDTV	CDTV	CDTV	CDTV		CDTV	CDTV	CDTV S145	CDTV	CDTV	CDTV				CDTV S146 S148 S149	CDTV		CDTV
8 Series	1989 - 1999	E31		CDTV	CDTV		CDTV						CDTV										CDTV	
	2009 -	X1-E84	CDTVF S1,S2 S30,S31,S32		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78		CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTV F S1		CDTV			CDTVF S1 S80,S81,S82,S83,S84,S85,S26		CDTV	CDTV S1					CDTV F S1 S86		CDTV S1 S92,S93,S94,S95,S96	CDTV S1 S118,S119,S120,S121
	2003 - 2010	X3-E83		CDTV S1	CDTV S1 S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129,S169		CDTV S37,S38,S40,S41,S42,S130	CDTV S1	CDTV S1				CDTV S1 S131,S132,S133											
	2010 -	X3-F25	CDTV		CDTV S75,S77,S135,S136,S137,S138,S139,S140,S141,S142,S143,S144	CDTV	CDTV	CDTV	CDTV		CDTV	CDTV	CDTV S145	CDTV	CDTV	CDTV				CDTV S146 S148 S149	CDTV		

BMW V47.30 Diagnostics List(Note:For reference only)

Series	Years	Model	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19
X Series	1998 - 2006	X5-E53		CDTV S1	CDTV S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129	CDTV S37,S38,S40,S41,S42,S130							CDTV S1 S131,S132,S133			CDTV S1				CDTV S1 S150
	2007 -	X5-E70	CDTVF S1,S2 S30,S31,S32		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78	CDTVF S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTV	CDTVF	CDTV	CDTV	CDTV	CDTV	CDTVF S80,S81,S82,S83,S84,S85,S26	CDTV S79		CDTV	CDTV S90,S91	CDTV S87,S88,S89		CDTV S92,S93,S94,S95,S96,S195,S196
	2008 -	X6-E71	CDTVF S1,S2 S30,S31,S32		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78	CDTVF S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTV	CDTVF	CDTV	CDTV	CDTV	CDTV	CDTVF S80,S81,S82,S83,S84,S85,S26	CDTV S79		CDTV	CDTV S90,S91	CDTV S87,S88,S89		CDTV S92,S93,S94,S95,S96
Z Series	1988 - 1989	Z1-E30		CDTV	CDTV	CDTV							CDTV							CDTV
	1996 - 2002	Z3-E36		CDTV	CDTV	CDTV							CDTV S131,S132,S133							CDTV
	2000 - 2003	Z8-E52		CDTV	CDTV	CDTV							CDTV			CDTV				
	2003 - 2008	Z4-E85/E86		CDTV S1	CDTV S1 S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129	CDTV S37,S38,S40,S41,S42,S130	CDTV S1						CDTV S1 S131,S132,S133						CDTV S1	
	2009 -	Z4-E89	CDTVF S1,S2 S30,S31,S32		CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78	CDTVF S1 S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44	CDTVF S1			CDTV			CDTVF S1 S80,S81,S82,S83,S84,S85,S26			CDTV	CDTV S1	CDTV S87,S88,S89	CDTVF S1 S86	CDTV S118,S119,S120,S121

BMW V47.30 Diagnostics List(Note:For reference only)

MINI	2000 - 2008	R50/R52/R53	CDTV S1	CDTV S45,S46,S47,S48,S50,S51,S52,S53,S55,S56,S57,S66,S67,S68,S122,S123,S124,S125,S126,S127,S128,S129	CDTV S37,S38,S40,S41,S42,S130							CDTV S1 S131,S132,S133			CDTV			CDTV	
	2006 - 2012	R55/R56	CDTVF S1,S2 S30,S31,S32	CDTVF S1 S45,S46,S47,S48,S49,S50,S51,S52,S53,S54,S55,S56,S57,S58,S59,S60,S61,S62,S63,S64,S65,S66,S67,S68,S69,S70,S71,S72,S73,S74,S75,S76,S77,S78,S170	CDTVF S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44							CDTV F S80,S81,S82,S83,S84,S85,S26			CDTV				

(*):Tested;	
(?):Manual on website(www.x431.com)	
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Functions Notes:

V	VERSION INFORMATION
C	DTC
D	DATA Stream
T	ACTIVATION TEST
F	FREEZE FRAME

S1	RECODING
S2	CKM(Car Key Memory)

Maintenance / CBS Reset
S3	Engine Oil
S4	Microfilter
S5	Front barke
S6	Rear brake
S7	Vehicle check
S8	Spark plugs
S9	Brake fluid
S10	Coolant
S11	Vehicle inspection
S12	Exhaust emission inspection
S13	Diesel particle filter

Maintenance / CBS Correct
S14	Engine Oil
S15	Microfilter
S16	Front barke

S17	Rear brake
S18	Vehicle check
S19	Spark plugs
S20	Brake fluid
S21	Coolant
S22	Vehicle inspection
S23	Exhaust emission inspection
S24	Diesel particle filter
S25	Delete transport mode
S26	Adjustment, Steering-angle sensor
S27	Key Test
S28	Display status of all keys
S29	Disable/Enable key
S30	Personalisation key number
S31	Enable/disable key
S32	Reset internal ELV fault counter
S33	Reset adaptation value
S34	Mechatronics adjustment
S35	Oil-level adjustment
S36	Reset learning functions
S37	Bleed hydraulic system
S38	Reduce hydraulic pressure
S39	Hydraulic pump activation test
S40	Teach in transmission
S41	Teach in clutch slip
S42	Reset clutch characteristic
S43	Teach in valve characteristic curve
S44	Clutch adaptation
S45	Idle speed adjustment
S46	Exhaust-gas recirculation adjustment
S47	Start basic injection quantity adjustment
S48	Injection rate
S49	DME/DDE - CAS adjustment
S50	Consumption calculation adjustment
S51	Injection rate adjustment
S52	Air flow rate sensor adaptation
S53	Mass middle value adaptation
S54	Reset variant
S55	Read measured value
S56	Bleeding, fuel system
S57	EOBD, readiness code
S58	Replace particle filter
S59	Particle filter regeneration
S60	Record battery replacement
S61	Evaluate battery charging status
S62	Adapt valvetronic limit position

S63	Minimum stroke adjustment
S64	Remove valvetronic servo motor
S65	Tolerance test, middle position control lever
S66	Clear Adaptations
S67	CO adjustment
S68	OBD, readiness code
S69	Ventilation, cooling system
S70	Reset LVS value
S71	Tank leakage detection
S72	Engine automatic start/stop (MSA history, MSA function)
S73	Read AV memory
S74	Electronic fuel pump
S75	Fuel rail pressure regulating valve
S76	Turbo valve actuator
S77	Valvetronic adaptation limit position
S78	VANOS adaptation
S79	Startup/adjustment, activate front steering system
S80	Bleeding, DSC hydraulic system
S81	Mixture check, brake pipeline
S82	Run flat indicator initialization
S83	Longitudinal acceleration sensor matching
S84	DSC sensors check
S85	Lateral acceleration sensor adjustment
S86	End position teach-in
S87	Workshop braking-in
S88	Assembly mode
S89	Positioning-travel check
S90	Start startup
S91	Sensor value
S92	Check, ride-level sensors
S93	Delete energy saving mode
S94	Check, air supply system
S95	Check, compressor, relay
S96	Check, raise/lower function
S97	Start windows initialising
S98	Rear windows, initialising
S99	Rear windows, test
S100	Normalization of seat
S101	Coolant compressor
S102	Throttle motor
S103	ALBFA initalization
S104	Sunroof initialisation
S105	Alarm triggers
S106	Initialize rain sensor
S107	Initialising the power windows
S108	Initialize slide / tilt sunroof
S109	Delivery position
S110	Register battery replacement

S111	Windows initialisation
S112	Test AM/FM
S113	Set tuner to New Zealand coding
S114	Heat unit malfunction
S115	Reset hip module
S116	General fault info
S117	Vertical ACC. Sensor adjustment
S118	System startup after control unit change
S119	Shock absorber adjustment
S120	Shock absorber performance
S121	Initial setting, switch-on state
S122	DME/DDE-EWS adjustment
S123	Smooth running measurement
S124	Tank Leakage System Check
S125	Secondary Air System Check
S126	Status Diagnosis Functions
S127	Program All Adjustments
S128	Operation On Roller Dynamometer
S129	Limitation delivery adjustment
S130	Clutch sensor function test
S131	TEST PROCEDURES
S132	BLEEDING THE ABS/ASC HYDRAULIC SYSTEM
S133	RESET ABS MOTOR RELAY CLOCK COUNTER
S134	Reset service interval indicator
S135	Battery management
S136	Fuel injector test
S137	Fuel injector adaptation
S138	Swirl flap
S139	Fuel pump
S140	Mean quantity
S141	EGR matching
S142	Smooth running control
S143	Throttle valve actuator
S144	Accelerator pedal module
S145	Brake bleeding procedure
S146	EMF workshop mode
S147	Steering wheel angle sensor adjustment
S148	Bedding-in procedure
S149	Initial operation
S150	Ride height adjustment
S151	Enable seat-occupancy mat, front passenger
S152	Throttle matching
S153	Tyre air pressure warning lamp reset
S154	Power windows initialisation
S155	Wake - up analysis
S156	Safety system (airbag): Coding data
S157	ALBBF initialization
S158	Initialisation,automatic tailgate actuation

S159	Heating test run
S160	unlocking
S161	Teach in radio remote control
S162	Activate Bluetooth and emergency call
S163	Correct volume
S164	Initialized telematics services
S165	Log handset in and off
S166	Instrument cluster system test
S167	MOST ring,save configuration
S168	Rear-window roller blind
S169	Operational smoothness measurement
S170	Learning Valvetronic limit positions
S171	Flushing function
S172	Reset torque characteristic curve
S173	CAS reset
S174	Reset starter interlock
S175	lock airbag
S176	Motor-driven belt retractor, left
S177	Motor-driven belt retractor, right
S178	Rear front passenger side seat normalisation
S179	Initial operation,SWW sensor system
S180	Initialize FlexRay
S181	Activate radio module
S182	Instrument-cluster system test
S183	Restore delivery status
S184	Test function for map data
S185	Save configuration of MOST ring
S186	Rear driver's side seat normalisation
S187	Electric steering-column adjustment: Normalization
S188	Electric steering-column adjustment: Partial normalization
S189	Initialise power window drive
S190	Perform flap-motor calibration run
S191	Readdress flap motors
S192	Air conditioning compressor initial operation
S193	Drain/fill refrigerant circuit
S194	Seat adjustment normalisation, driver's side
S195	Ride height sensor check
S196	Check, compressor relay
S197	Evaluate battery charge state
S198	Consumption calculation adjustment
S199	Display, On-board Diagnosis readiness codes
S200	Fuel grade display
S201	Air mass flow sensor
S202	Glow elements
S203	Starting torque
S204	Register battery change
S205	Register starter exchange
S206	Electric fuel pump

S207	Exhaust backpressure sensor before exhaust turbocharger
S208	Mean quantity adaptation
S209	Swirl flap actuator
S210	Regeneration, particulate filter
S211	Valvetronic running-in phase

S

ICMV	VDM	CIM	LEW	EDCSVL	EDCSVR	EDCSHL	EDCSHR	HSR	SME	SGM-ZGM / KGM / JBE / JBBF	ZKE	SRS / SIM / MRS / ACSM	SZL	SASL	SASR	STVL / CDM	STVR	TRSVC	TMFA	TMBF	SSFA	SSBF	SBSL	SBSR	HC / SWW	SCR	SSH / HKFM	SFZ	SVT
										CDTV S1 S97,S98		CDTV S1 S151																	
CDTV										CDTV S106,S107		CDTV	CDTV S147					CDTV											
											CDTV	CDTV																	
			S1								CDTV S1	CDTV S1																	
			CDTV S1								CDTV S1,S2	CDTV S1																	
	CDTV			CDTV S117	CDTV S117	CDTV S117	CDTV S117			CDTV S1 S97,S98		CDTV S1 S151																	
CDTV										CDTV S106,S107		CDTV	CDTV S147					CDTV											
											CDTV	CDTV																	

											CDTV	CDTV																	
			CDTV S1								CDTV S1,S2	CDTV																	
										CDTV S1,S2 S97,S98,S154,S155,S156		CDTV S1 S151	CDTV S1						CDTV S1,S2 S111	CDTV S1,S2 S111		CDTV S1	CDTV S1				CDTV S1		
CDTV				CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV S106,S107		CDTV	CDTV S147					CDTV							CDTV				CDV
CDTV				CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV S106,S107		CDTV	CDTV S147					CDTV							CDTV				CDV
											CDTV	CDTV																	
										CDTV S1,S2 S97,S98		CDTV S1 S151	CDTV S1						CDTV S1,S2 S111	CDTV S1,S2 S111		CDTV S1	CDTV S1				CDTV S1		
CDTV				CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV S106,S107		CDTV	CDTV S147					CDTV							CDTV				CDV
											CDTV	CDTV																	
											CDTV	CDTV																	

			CDTV S1											CDTV S1,S2	CDTV S1															
		CDTV S1,S2											CDTV S97,S98,S154,S155,S156		CDTV S1 S151		CDTV	CDTV	CDTV	CDTV			CDTV	CDTV	CDTV	CDTV			CDTV	CDTV	
CDTV				CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV S106,S107		CDTV S175	CDTV S147					CDTV							CDTV S179					CDV
											CDTV	CDTV																			
										CDTV S1 S97,S98		CDTV S1 S151																		
		CDTV S1									CDTV S1,S2	CDTV S1																		
CDTV	CDTV S149			CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV S106,S107		CDTV	CDTV S147					CDTV							CDTV					

		CDTV S1						CDTV S1,S2	CDTV S1																		
CDTV			CDTV S117	CDTV S117	CDTV S117	CDTV S117		CDTV S97,S98		CDTV S151																	
CDTV			CDTV S117	CDTV S117	CDTV S117	CDTV S117		CDTV S97,S98		CDTV S151																	
								CDTV	CDTV																		
								CDTV	CDTV																		
		CDTV						CDTV	CDTV																		
		CDTV S1						CDTV S1,S2	CDTV S1				CDTV	CDTV						CDTV S1	CDTV S1					
								CDTV S1 S97,S98	CDTV S1 S151																		

		CDTV S1							CDTV S1,S2	CDTV S1				CDTV	CDTV										
								CDTV S2 S97,S98		CDTV S151	CDTV														

GHAS	CEM	AHL	CVM / CTM	RSE	CA	DVDC / MMC	SG-FD-GW	SG-FD	SVS	TCU / ULF / Tel	AMP / AMPH / AMPT	KHI / KHM	NAV	CDC	EME2	HUD	CCC-ASK	DWA	PM / MPM	SHD	RLS / RLSS	WIM	ANT	VSW	JBIT	VM	SEC	TMFAT	TMBFT	TMFAH	TMBFH
			CDTV		CDTV					CDTV S1	CDTV F S1		CDTV	CDTV			CDTV S1	CDTV S1,S2			CDTV S2 S106		CDTV S1 S112								
											CDTV																				
			CDTV															CDTV		CDTV											
			CDTV															CDTV		CDTV											
			CDTV S1							CDTV S1										CDTV S1											
				CDTV S161	CDTV	CDTV				CDTV S1	CDTV F S1	CDTV	CDTV	CDTV		CDTV	CDTV S1	CDTV S1,S2			CDTV S2 S106		CDTV S1 S112	CDTV		CDTV					
											CDTV																				
			CDTV															CDTV		CDTV											

		CDTV													CDTV		CDTV					
								CDTV S1									CDTV					
	CDTV S1	CDTV S1		CDTV	CDTV		CDTV	CDTV S1,S162,S163,S164 S165	CDTV F S1	CDTV	CDTV	CDTV		CDTV	CDTV S1	CDTV S1,S2	CDTV S1 S110	CDTV S1 S108,S109	CDTV S1 S106	CDTV S1 S112		CDTV
			CDTV		CDTV			CDTV	CDTV					CDTV							CDTV	CDTV CDTV
CDV			CDTV S161 S181		CDTV			CDTV	CDTV			CDV	CDTV								CDTV	CDTV CDTV
		CDTV													CDTV		CDTV					
	CDTV S1	CDTV S1		CDTV	CDTV		CDTV	CDTV S1	CDTV F S1	CDTV	CDTV	CDTV		CDTV	CDTV S1	CDTV S1,S2	CDTV S1 S110	CDTV S1 S108,S109	CDTV S1 S106	CDTV S1 S112		CDTV
CDV			CDTV		CDTV			CDTV	CDTV			CDV	CDTV								CDTV	CDTV CDTV
		CDTV													CDTV		CDTV					
		CDTV													CDTV		CDTV					

												CDTV S1						CDTV S1										
CDTV	CDTV S1			CDTV S1	CDTV S1	CDTV	CDTV S1	CDTV	CDTV S1	CDTV F	CDTV	CDTV	CDTV		CDTV S1	CDTV S1,S2	CDTV S1 S110	CDTV S1 S108,S109	CDTV S1 S106	CDTV S1	CDTV S1 S112	CDTV	CDTV		CDTV S1,S2	CDTV S1,S2	CDTV S1	CDTV S1
			CDTV S161		CDTV				CDTV	CDTV				CDTV								CDTV		CDTV	CDTV			
		CDTV														CDTV			CDTV									
		CDTV		CDTV	CDTV				CDTV S1	CDTV F S1		CDTV	CDTV		S1	CDTV S1,S2			CDTV S2 S106					CDTV				
												CDTV S1							CDTV S1									
			CDTV		CDTV				CDTV	CDTV				CDTV								CDTV		CDTV	CDTV			

							CDTV S1					CDTV S1				
	CDTV	CDTV	CDTV	CDTV	CDTV F	CDTV	CDTV	CDTV	CDTV	CDTV			CDTV S106	CDTV S112	CDTV	CDTV
	CDTV	CDTV	CDTV	CDTV	CDTV F	CDTV	CDTV	CDTV	CDTV	CDTV			CDTV S106	CDTV S112	CDTV	CDTV
CDTV											CDTV	CDTV				
CDTV											CDTV	CDTV				
CDTV S1																
CDTV		CDTV	CDTV	CDTV S1	CDTV F S1		CDTV	CDTV		S1	CDTV S1,S2		CDTV S2 S106			CDTV

		CDTV S1												CDTV S1,S2										
		CDTV		CDTV				CDTV F		CDTV	CDTV		CDTV		CDTV S2 S108,S109		CDTV S112		CDTV					

Body

EMALI	EMARE	SINE	CANSIN	MFL	IBOC	SDARS	ULF-SBX-H	FZD	NVE / NIVI	ALBFA	ALBBF	DAB	TLC	KAFAS	FLA	INSTR	IKE / KOM / KOMBI	PDC	FBI	CBX-ECALL	CD-GW / M-ASK-GW / CCC-GW / CHAMP-GW / RAD2-GW / CIC-GW	CD / M-ASK-BO / RAD / CIC / RAD2-BO / CHAMP-BO / CCC-BO	SZM / BZM	FBZM	CON / ZBE	FCON / ZBEF	RAD	SMFAH	SMBFH
		CDTV S1				CDTV	CDTV	CDTV S1 S104, S105				CDTV				CDTV F S1		CDTV S1			CDTV S1 S113,S114, S115,S167	CDTV S1			CDTV				
								CDTV S104						CDTV	CDTV	CDTV	CDTV S182	CDTV		CDTV		CDTV S183 S185			CDTV			CDTV S100 S186	CDTV S100
																	CDTV	CDTV									CDTV		
																	CDTV S1 S134	CDTV									CDTV		
			CDTV														CDTV S1,S2 S134	CDTV S1,S2					CDTV				CDTV S1,S2		
		CDTV S1			CDTV	CDTV	CDTV	CDTV S1 S104, S105				CDTV			CDTV	CDTV F S1		CDTV S1			CDTV S1 S113,S114, S115	CDTV S1			CDTV				
								CDTV S104						CDTV	CDTV	CDTV		CDTV		CDTV		CDTV			CDTV			CDTV S100	CDTV S100
																	CDTV	CDTV									CDTV		

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
																	CDTV	CDTV									CDTV		
				CDTV													CDTV S1,S2 S134	CDTV S1,S2					CDTV				CDTV S1,S2		
		CDTV S1				CDTV	CDTV S1		CDTV	CDTV S103	CDTV S157	CDTV	CDTV S1		CDTV S1	CDTV F S1,S166		CDTV S1			CDTV S1 S113,S114,S115,S167	CDTV S1	CDTV S1	CDTV S1					
CDTV	CDTV							CDTV S104	CDTV					CDTV	CDTV	CDTV		CDTV				CDTV		CDTV	CDTV		CDTV S100	CDTV S100	
CDTV	CDTV							CDTV S104	CDTV					CDTV	CDTV	CDTV		CDTV				CDTV		CDTV	CDTV		CDTV S100	CDTV S100	
																	CDTV	CDTV									CDTV		
		CDTV S1				CDTV	CDTV S1		CDTV	CDTV S103	CDTV	CDTV	CDTV S1		CDTV S1	CDTV F S1		CDTV S1			CDTV S1 S113,S114,S115	CDTV S1	CDTV S1	CDTV S1					
CDTV	CDTV		CDTV					CDTV S104	CDTV					CDTV	CDTV	CDTV		CDTV		CDTV		CDTV		CDTV	CDTV		CDTV S100	CDTV S100 S178	
																	CDTV	CDTV									CDTV		
																	CDTV	CDTV									CDTV		

				CDTV											CDTV S1,S2 S134	CDTV S1,S2					CDTV				CDTV		
	CDTV S1			CDTV	CDTV			CDTV S1		CDTV S157		CDTV S1	CDTV F S166		CDTV S1	CDTV S1		CDTV S113,S114, S115	CDTV S1	CDTV	CDTV	CDTV	CDTV		CDTV S1	CDTV S1	
CDTV S176	CDTV S177						CDTV S104	CDTV				CDTV	CDTV	CDTV	CDTV S182	CDTV			CDTV S183 S184 S185			CDTV	CDTV		CDTV S100	CDTV S100	
														CDTV	CDTV									CDTV			
	CDTV S1					CDTV	CDTV S1 S104, S105			CDTV		CDTV	CDTV F S1		CDTV S1			CDTV S1 S113,S114, S115	CDTV S1		CDTV						
			CDTV										CDTV S1,S2 S134	CDTV S1,S2									CDTV S1,S2				
CDTV	CDTV						CDTV S104	CDTV			CDTV	CDTV	CDTV		CDTV				CDTV			CDTV	CDTV		CDTV S100	CDTV S100	

	CDTV								CDTV S1,S2 S134	CDTV S1,S2			CDTV		CDTV S1,S2
CDTV		CDTV	CDTV	CDTV	CDTV S104, S105	CDTV	CDTV	CDTV F		CDTV	CDTV S113,S114, S115,S167	CDTV		CDTV	
CDTV		CDTV	CDTV	CDTV	CDTV S104, S105	CDTV	CDTV	CDTV F		CDTV	CDTV S113,S114, S115	CDTV		CDTV	
									CDTV	CDTV					CDTV
									CDTV S134	CDTV					CDTV
									CDTV						CDTV
									CDTV S1,S2 S134	CDTV S1,S2			CDTV		CDTV S1,S2
CDTV S1				CDTV	CDTV S1 S104, S105	CDTV	CDTV	CDTV F S1		CDTV S1	CDTV S1 S113,S114, S115	CDTV S1		CDTV	

													CDTV S1,S2 S134	CDTV S1,S2								CDTV S1		
			CDTV	CDTV	CDTV				CDTV			CDTV F		CDTV			CDTV S113,S114, S115	CDTV S1							

DSP	HKL / HKFM	STH	SMFA	SMBF	LM	LSZ / LCM	AHM	FRM	KBM	SMF	CID	FD	VDC	RFK	HKA	IHKA / IHKR	FKA	SHZH	NVK	CCC-A	GR	FGB	SES	NAJ	MID	BIT	AIC	VID	BM	PMA	VOCS
			CDTV S1,S2 S100	CDTV S100	S1		CDTV	CDTV S1,S2 S97,S98,S99			CDTV S1 S116					CDTV S1 S101, S102				CDTV											
			CDTV	CDTV S100			CDTV	CDTV S107 S189			CDTV	CDTV	CDTV			CDTV S190 S191 S192	CDTV												CDTV		
						CDTV										CDTV					CDTV				CDTV						
						CDTV										CDTV					CDTV				CDTV						
						CDTV S1,S2				CDTV S1,S2						CDTV S1,S2					CDTV S1				CDTV S1,S2	CDTV S1			CDTV		
CDTV			CDTV S1,S2 S100	CDTV S100	S1		CDTV	CDTV S1,S2 S97,S98,S99			CDTV S1 S116	CDTV		CDTV		CDTV S1 S101, S102	CDTV		CDTV	CDTV											
CDTV			CDTV	CDTV S100			CDTV	CDTV S107			CDTV	CDTV	CDTV			CDTV	CDTV												CDTV		
						CDTV										CDTV					CDTV				CDTV						

						CDTV										CDTV					CDTV				CDTV					
CDTV S1		CDTV				CDTV S1,S2										CDTV S1,S2					CDTV S1		CDTV		CDTV	CDTV S1	CDTV S1	CDTV S1	CDTV	
	CDTV S158		CDTV S1 S100	CDTV S1 S100	CDTV S1,S2		CDTV S1		CDTV S2		CDTV S1 S116					CDTV S1,S2 S101, S102		CDTV S159,S160	CDTV	CDTV										
	CDTV		CDTV	CDTV S100			CDTV	CDTV S107			CDTV	CDTV		CDTV		CDTV	CDTV													
	CDTV		CDTV	CDTV S100			CDTV	CDTV S107			CDTV	CDTV		CDTV		CDTV	CDTV													CDTV
						CDTV										CDTV					CDTV				CDTV					
	CDTV		CDTV S1 S100	CDTV S1 S100	CDTV S1,S2		CDTV S1		CDTV S2		CDTV S1 S116					CDTV S1,S2 S101, S102		CDTV	CDTV	CDTV										
	CDTV		CDTV S194	CDTV S100 S194			CDTV	CDTV S107			CDTV	CDTV		CDTV		CDTV	CDTV													CDTV
						CDTV										CDTV					CDTV				CDTV					
						CDTV										CDTV					CDTV				CDTV					

CDTV S1		CDTV				CDTV S1,S2			CDTV S1					CDTV S1,S2				CDTV S1		CDTV		CDTV	CDTV S1	CDTV	CDTV S1	CDTV
	CDTV S1,S158		CDTV S1 S100	CDTV S1 S100	CDTV S1		CDTV				CDTV			CDTV S1,S2 S101, S102,S168	CDTV S1	CDTV S1,S159,S160	CDTV								
	CDTV S158		CDTV S194	CDTV S100 S194		CDTV	CDTV S107 S187,S188		CDTV	CDTV		CDTV	CDTV S193	CDTV S160 S190 S191 S192	CDTV									CDTV	
					CDTV									CDTV				CDTV				CDTV			
			CDTV S1,S2 S100	CDTV S100	S1		CDTV S1,S2 S97,S98,S99		CDTV S1 S116					CDTV S1 S101, S102											
CDTV					CDTV S1,S2			CDTV S1,S2	CDTV					CDTV S1,S2									CDTV S1,S2	CDTV S1	CDTV S1
	CDTV		CDTV	CDTV S100		CDTV	CDTV S107		CDTV	CDTV	CDTV	CDTV		CDTV S160 S190 S191 S192	CDTV										

CDTV S1		CDTV			CDTV S1,S2			CDTV S1,S2					CDTV S1,S2				CDTV		CDTV			CDTV S1	CDTV S1	CDTV S1	CDTV	
	CDTV	CDTV S100	CDTV S100			CDTV	CDTV S97,S98,S99		CDTV S116	CDTV		CDTV	CDTV S101, S102	CDTV		CDTV										
	CDTV	CDTV S100	CDTV S100			CDTV	CDTV S97,S98,S99		CDTV S116	CDTV		CDTV	CDTV S101, S102	CDTV		CDTV										
					CDTV								CDTV				CDTV			CDTV						
					CDTV								CDTV				CDTV			CDTV						
													CDTV													
CDTV S1					CDTV S1,S2			CDTV S1,S2	CDTV				CDTV S1,S2							CDTV		CDTV S1,S2	CDTV S1	CDTV S1		
		CDTV S1,S2 S100		S1			CDTV S1,S2 S97,S98,S99		CDTV S1 S116				CDTV S1 S101, S102													

					CDTV							CDTV										CDTV S1		CDTV	
					CDTV	CDTV S2 S97,S98,S99		CDTV S116				CDTV S101, S102		CDTV											

																							Coding/Program				
ZGW	ASD	TBX	STML	STMR	LHML	LHMR	GZAL	GZAR	ADS	AHK	EKM	EML	FHK	GSA	URS	VMX	VNC	XEN	SPM / SM	SMB	SPMBT	SPMFT	Recoding	CKM	CBS reset	CBS correct	Service functions
																							S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26
CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV																	S3,S5,S6,S7,S9,S11,S12		
									CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV								S27,S28,S29
									CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV				S1				S27,S28,S29
															CDTV					CDTV	CDTV S1,S2	CDTV S2	S1	S2			S27,S28,S29
																							S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26
CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV																	S3,S5,S6,S7,S9,S11,S12		
									CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV								S27,S28,S29

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
									CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV										S27,S28,S29
																			CDTV				S1	S2					S27,S28,S29
																							S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26		
CDTV																									S3,S5,S6,S7,S9,S11,S12				
CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV																	S3,S5,S6,S7,S9,S11,S12				
									CDTV		CDTV	CDTV			CDTV	CDTV	CDTV	CDTV	CDTV										S27,S28,S29
																							S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26		
CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV																	S3,S5,S6,S7,S9,S11,S12				
									CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV										S27,S28,S29
									CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV										S27,S28,S29

												CDTV								CDTV				S1	S2			S27,S28,S29
																								S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26
CDTV S180		CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV																		S3,S5,S6,S7,S9,S11,S12		
										CDTV	CDTV	CDTV		CDTV	CDTV	CDTV	CDTV	CDTV										S27,S28,S29
																								S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26
																								S1	S2			S27,S28,S29
CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV																		S3,S5,S6,S7,S9,S11,S12		

																			CDTV					S1	S2			S27,S28,S29
																										S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26
																										S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26
							CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV											S27,S28,S29
							CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV	CDTV											S27,S28,S29
													CDTV															S27,S28,S29
																								S1	S2			S27,S28,S29
																								S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26

											CDTV						S1	S2			S27,S28,S29
																	S1	S2	S3,S4,S5,S6,S7,S8,S9,S10,S11,S12,S13	S14,S15,S16,S17,S18,S19,S20,S21,S22,S23,S24	S25,S26